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CHALLENGE TB

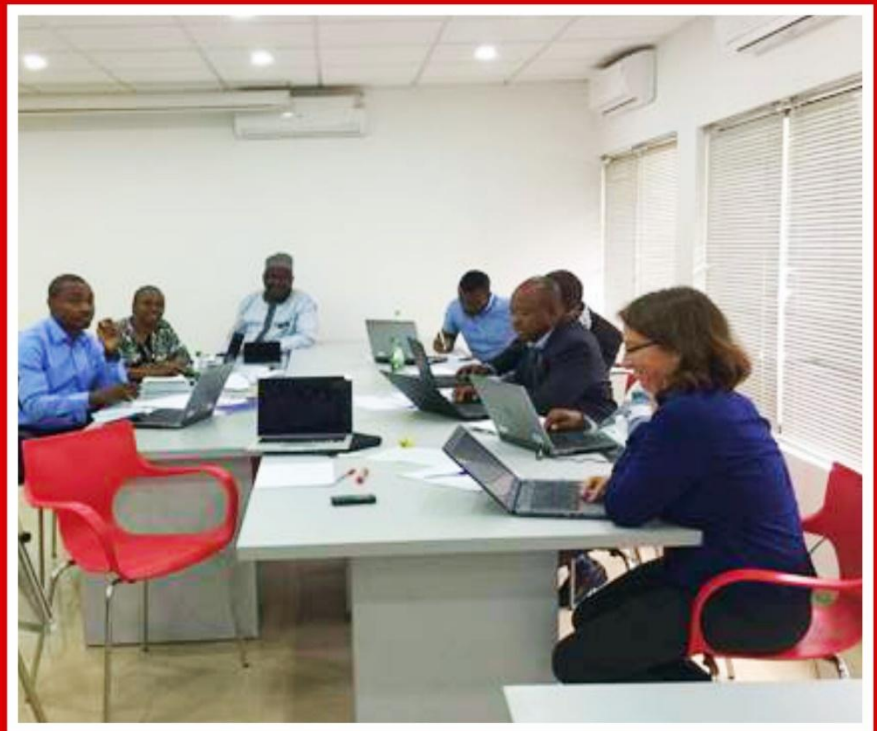
Challenge TB - Nigeria

Year 2

Annual Report

October 1, 2015 – September 30, 2016

October 30, 2016



Cover photo:

Photograph 1: Advocacy Tool Development Workshop in Lagos (Credit: Habiba Onuorah)
Photograph 2: ACF Workshop at the KNCV Office in Abuja (Credit: Dr. Emeka Ihesie)
Photograph 3 and 4: PMDT visit to patients in Benue State (Credit: Dr. Titilope Ogunlade)

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Disclaimer
The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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List of Abbreviations and Acronyms

ACF	Active Case Finding
AFB	Acid Fast Bacilli
APA1	Annual Plan of Activities Year 1
APA2	Annual Plan of Activities Year 2
CBO	Community-Based Organization
CHW	Community Health Worker
CO	Central Office
CP	Community Pharmacist
CTB	Challenge TB
DOTS	The internationally recommended strategy for TB control
EQA	External Quality Assurance
FMoH	Federal Ministry of Health
Global Fund	Global Fund to Fight AIDS, TB, and Malaria
HIV	Human Immunodeficiency Virus
IC	Infection Control
KNCV	KNCV Tuberculosis Foundation
iLED	Illuminating Light-Emitting Diode
ILEP	International Association of Anti-Leprosy Associations
LGA	Local Government Area
MDR-TB	Multidrug-Resistant TB
M&E	Monitoring and Evaluation
MOH	Ministry of Health
MSH	Management Sciences for Health
NRL	National Reference Laboratory
NTBLCP	National TB and Leprosy Control Program
OR	Operational Research
PEPFAR	President's Emergency Plan for AIDS Relief
PMDT	Programmatic Management of Drug-resistant TB
PMV	Patent Medicine Vendor
SOP	Standard Operating Procedure
TA	Technical Assistance
TB	Tuberculosis
ToT	Training of Trainers
USAID	United States Agency for International Development
WHO	World Health Organization

1. Executive Summary

The Challenge TB project (CTB) received a grant from the United States Agency for International Development (USAID) to implement TB control activities in 12 high-burden states in collaboration with Global Fund (GF) during the year. The Local Government Areas in each state were split equally among the partners. CTB worked through collaborative engagement of the National and State TB control program to successfully implement TB control activities in the 12 states.

The Key areas of the project interventions include:

- Enabling Environment
- Comprehensive High Quality Diagnosis
- Patient Centered Care
- Targeted Screening for Active TB
- Infection Control

Key activities implemented under the grant include the expansion of AFB services to **93** new sites and GeneXpert services to **34** new sites. CTB was able to strategically expand DOTS services to **188** health facilities with a primary focus on private health facilities **(102)** in these states; at the same time, we built the capacity of **1,112** health care workers to enable delivery of quality TB services, including through continuous medical education. In order to ensure the timely diagnosis of TB patients, CTB supported the National TB and Leprosy Control Program (NTBLCP) to institute the sputum transport system in the 12 states with the effective movement of **17,891** sputum samples. Also through effective collaboration with the state programs, CTB built structures for the programmatic management of DR-TB at the community level, which have supported the enrolment of DR TB Patients across the 12 states. In order to combat childhood TB, CTB embarked on creating awareness among health care workers and facilitated linkage of high-burden pediatric TB cases to the NTBLCP for improved pediatric TB control.

The key significant results achieved over the reporting period include the following:

During the year, a total of **41,692** all forms of TB cases were notified from the 12 supported challenge TB states suggesting a **9%** increase over 2015 data (38,241). CTB contribution in the 151 LGAs amounted to 45% of total cases notified during the year. Cumulatively till date, **75,536** sputa were tested using GeneXpert in CTB-supported states, **69,697(92%)** were successful tests. Of those tested, **13,149 (19%)** MTB positives were detected and **842(1.2%)** were Rif + cases. Also **478** DR-TB patients were enrolled into care across the states and patient support were provided to **620** DR-TB patients cumulatively.

Enabling Environment

Challenge TB effectively supported the engagement of community based organizations (CBO) in hard to reach areas thus enabling the diagnosis and notification of **131** TB cases through targeted community outreach activities across 14 LGAs in Benue, Cross Rivers, Osun and Akwa Ibom states. Additionally, to ensure the ability of health care personnel to presume and detect cases, CTB embarked on awareness-creation among health care workers. Of **1,378** health facilities located in 151 CTB-supported LGAs, CTB staff visited a total of **1,091 (79%)** facilities and sensitized **4,551** health care personnel. CTB also developed and aired a total of **4,087** radio messages across the supported states. CTB innovatively instituted a TB call center with the aim to create an avenue for the public to seek more information about free TB treatment services closest to them. Through a toll free call number (CALL CTB 0800-2255-282) a total of **3,769** calls were received and answered on enquiries for service (64.9%); information (20.9%); technical support (2.2%); and service complaints (1%).

Comprehensive High Quality Diagnosis

In line with the recent paradigm shift globally for the use of more reliable and effective tools for diagnosis, CTB scaled up the provision of GeneXpert services to an additional **34** sites during the year, thus meeting the target for expansion of GeneXpert services. Additionally, CTB installed a total of **93**

microscopes, increasing the coverage and functionality of microscopy services across the CTB supported LGAs by **24%** from **387** at the baseline to **480**.

Due to the low coverage of GeneXpert services and the challenges in accessing the service, GeneXpert sites have been under-utilized. To boost the utilization of the services, the CTB project instituted sample movement to GeneXpert sites. To date, a total of **17,891** samples have been moved. Additionally, CTB hired **23** ad-hoc laboratory personnel to support the processing of samples and supplied **13** solar panels to facilities to ensure uninterrupted power and thus more robust diagnostic services.

Patient Centered Care

At baseline, total of **1,190** DOTS sites were providing TB DOT treatment across the 151 CTB supported LGAs in 12 States. Thus far, CTB has contributed about **16**% of the site expansion (188) thus bringing total sites to **1,378**. With increased support, CTB has been able to support the diagnosis of **842** DR-TB patients and enrolment of **478** DR-TB patients into care in 12 states and cumulatively provided patient support for **620** DR-TB patients. A major challenge in the enrolment of patients has been the delay in the provision of second-line anti-TB drugs to states, thus hindering the number of patients enrolled into care. CTB will continue to support NTBLCP in facilitating the quick delivery of anti-TB drugs where necessary.

Targeted Screening for Active TB

The investigation of contacts of smear-positive TB cases is officially standard practice though this is rarely carried out, due to a myriad of reasons. Throughout the year, CTB ensured investigation of contacts of bacteriologically positive TB patients to achieve early diagnosis and prevent further transmission. Households of **1,917** index TB patients were visited during the reporting period. From those visited, **6,260** contacts were screened for TB. From those screened **1,701** (27.1%) presumptive TB cases were identified and samples obtained from for investigation. Of those evaluated, **224** (13.1%) were bacteriologically positive cases were identified. All those diagnosed were assisted and linked to TB program for care.

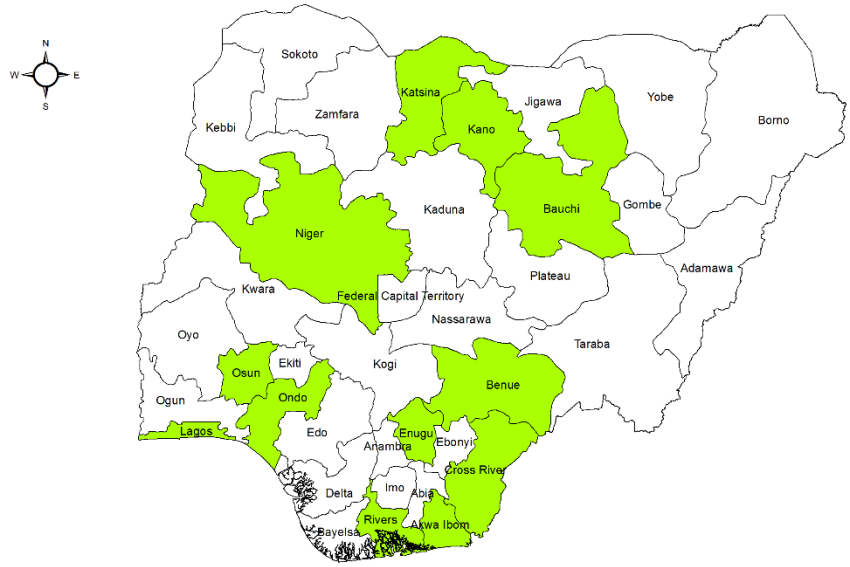
Infection Control

Through the implementation of the FAST strategy (Finding cases Actively, Separating them safely and Treating them effectively) in **15** facilities in 3 states, CTB was able to improve the average time to diagnosis ie the time a presumptive TB case sees a HCW, test is carried out and result received. In Lagos, average time to diagnosis in 2 days or less was **85.3%** compared to **19.2%** at baseline. Time Time from diagnosis to treatment is the time when a patient's result is available to when the patient commences treatment. In Lagos, the time to treatment in 2 days or less improved to 21.9**%** at baseline. In Benue state, time to diagnosis in 2 days or less was **79.8%** compared to baseline figure of **47.9**% while time to treatment in 2 days or less was **76.6%** compared to baseline figure of **46.9%** at baseline. Similarly in Akwa Ibom state, the average time to diagnosis in 2 days or less was **66.7%** compared to **49.6%** at baseline whilst time to treatment was **54.5%** compared to **66.3%** at baseline. The reason for the decrease was the stock out of anti-TB drugs experienced in the state. CTB through WHO is providing technical support to the NTP for the quantification of drugs to prevent future stock outs.

2. Introduction

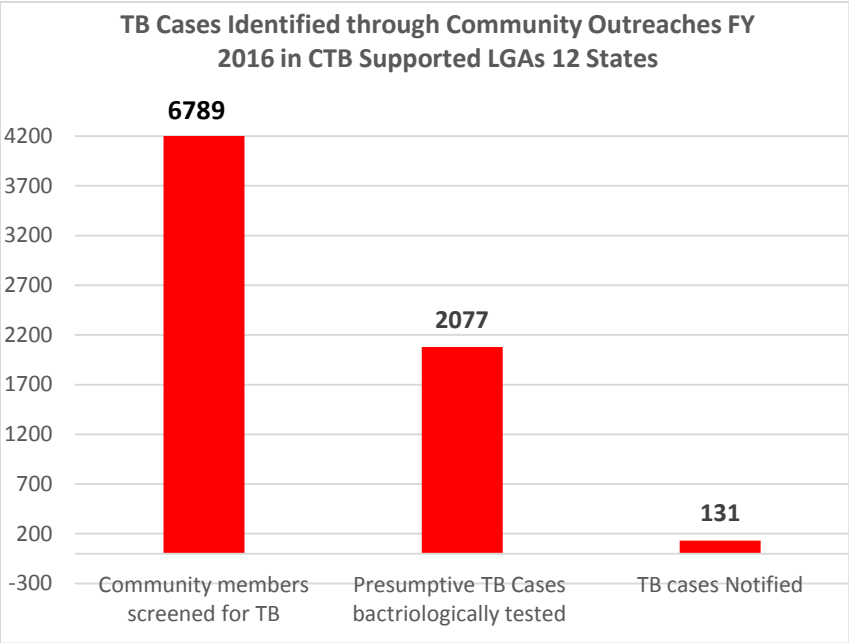
The Challenge TB project (CTB) with funding support from USAID was launched in country in August 2015. The project is made up of a consortium of three partners- World Health Organization (WHO), Management Sciences for Health (MSH) and KNCV Tuberculosis Foundation (KNCV) as the lead partner. The total project buy-in is $8,836,298 to be implemented in 12 CTB supported states of Akwa Ibom, Bauchi, Benue, Cross Rivers, Enugu, Kano, Katsina, Lagos, Niger, Ondo, Osun and Rivers states with the overall strategic focus to improve TB diagnosis TB in adults and children; improving the capacity of health care workers to diagnose and treat DR-TB cases; as well as improving treatment outcomes in specific geographical areas. The CTB-covered areas accounted for about 42% (78,193, 227) of total country population (185,070,578) as at end of 2015.

Fig 1: Map Showing CTB Supported 12 States



Project activities commenced with the establishment of three regional offices in Lagos, Kano and Akwa Ibom for proper monitoring and implementation of project activities. Through a series of targeted meetings, the National TB and Leprosy Control Program (NTBLCP), State programs team and the Local Government Supervisors were sensitized to the project aims and objectives. The support and collaboration of the state NTBLCPs were solicited for the implementation of the project in the respective states and roles and responsibilities clearly defined. Thus far, CTB has recorded tremendous achievements and learned lessons from various strategies, which will inform future program design and implementation. However, only the lead partner implemented activities in the first work plan.

Sub-objective 1. Enabling environment



The knowledge and awareness of TB and TB services in the community serve as one of the catalysts for the utilization of TB services. However, the awareness about TB and TB services in country is low and in order to bridge this gap, during the reporting period CTB supported **120** outreach activities in the various communities inclusive of 12 LGA mini rallies. The outreach activities were aimed at equipping the communities with information on TB signs and symptoms, availability of diagnostics and treatment services within the communities and close environs, including a Toll free information number. Through the outreach activities a total of **6,789** persons were screened for TB of which **2,077 (31%)** presumptive TB cases were identified and bacteriologically tested. Of those tested, **131 (6%)** TB cases were notified. All were linked up with treatment services. To further reinforce the information provided in the communities, CTB distributed about **900** IEC materials during the outreach activities. Additionally during the reporting period, using diverse multimedia approaches, CTB innovatively established a CTB call center with the aim of creating an avenue for the public to seek more information about free TB treatment services closest to them. Through a toll free call number (CALL CTB 0800-2255-282) a total of **3,769** calls were received and answered on enquiries for service (64.9%); information (20.9%); technical support (2.2%); and service complaints (1%). Additionally CTB aired a total of **4,087** radio messages across the states; **48,584** copies of IEC materials were distributed, including posters and pamphlets on TB and TB services. CTB also distributed **1,100** T-shirts with TB messages; **29** flex and wall banners; **350** face caps and **1,000** jotters/ pens/folders.

Health care workers are central to the delivery of quality TB services; however not all health care workers have adequate knowledge and information about TB and TB services. CTB embarked on the sensitization of health care workers in a total of **1,091** health facilities. Through this strategy, a total of **4,551 (M 2,430; F 2,121)** were sensitized on how to promptly identify presumptive cases, increase their awareness of availability and utilization of GeneXpert services and on the availability of CTB toll-free number to call for more information about TB, whilst a total of **600** copies of the directories with current information on functional DOTS, AFB Microscopy and GeneXpert services were distributed across the states alongside **4,278** SOPs on new GeneXpert algorithm, laboratory procedures, contact tracing etc.

Key Results

Table 1: Enabling Environment

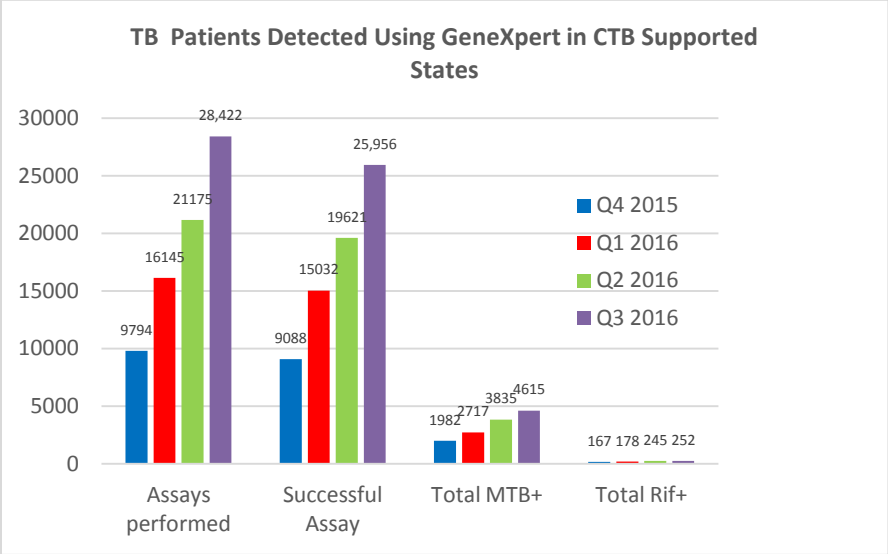
The data below indicates that target was met for number of TB cases notified by CBOs in hard to reach areas whilst the targets was not met for the presumptive cases identified by CBOs and total presumptive TB cases tested. The failure to meet the target for presumptive cases diagnosed may be attributed to the sub-optimal use of the presumptive TB register in the facilities. CTB will continue to mentor HCWs on the importance of register and complete documentation.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
1	1.2.3 NIGERIA SPECIFIC: # presumptive TB cases identified by CBOs in hard to reach areas	**Definition:** Total number of Presumptive TB cases identified by CBOs in hard to reach areas **Indicator Value:** Number **Level:** Challenge TB geographic areas	NA	3,000	2625 88% of target met. Data reported is for the 14 LGAs where CTB engaged CBOs
2	1.2.4 NIGERIA SPECIFIC: # TB cases notified through CBOs in hard to reach areas	**Definition:** Number of all TB cases (bacteriologically confirmed + clinically diagnosed; includes new & relapse cases) reported in the past year notified through CBOs in hard to reach areas **Indicator Value:** Number **Level:** Challenge geographic areas	NA	300	370 The target was met and surpassed by 23%. Data reported is for the 14 LGAs where CTB engaged CBOs
3	1.3.3. NIGERIA SPECIFIC: Number of presumptive TB cases tested	**Numerator:** Total number of presumptive TB cases notified in current quarter minus (-) number of presumptive TB cases notified in previous quarter **Denominator:** Total number of presumptive TB cases notified in the previous quarter **Indicator Value:** Percent **Level:** Challenge geographic areas	FY 14 Total Presumptive TB cases =172,040	F Y 16 Total Presumptive TB cases = 242,728	FY 16 Total =194, 099. 80% of the target was met

Sub-objective 2. Comprehensive, high quality diagnostics

While the prompt and accurate diagnosis of TB patients is central to successful TB control efforts in Nigeria; so also is ensuring the adequacy and functionality of the available microscopy center for prompt diagnosis. Prior to the commencement of the project, CTB conducted an assessment of laboratory services to determine the level of availability as well as functionality of the microscopes with a view to repair or replace them. Through this initiative, **123** microscopy sites were deemed nonfunctional at the time; through such assessments, **92 (75%)** of the non-functional microscopy sites were reactivated and **21** laboratory sites renovated. Also in line with the **F**ix, **E**xpand, **E**nsure

Quality and **D**emand-creation (FEED) strategy of CTB Nigeria, **94** microscopes were procured for the expansion of microscopy services. Due to the state of infrastructural decay and deterioration of some of the sites, **80** of the new sites laboratory sites were refurbished and/or renovated by CTB. In all, **93** new microscopy sites were established and provided equipment and supplies during the year. To ensure the capacity of the laboratory staff to provide Acid Fast Bacillary (AFB) microscopy services across the 12 supported states, CTB built the capacity of **302** laboratory staff **(181 males; 121 females)** trained on AFB microscopy and distributed **17,434** bio-safety bags. Smear microscopy remained until recently the most frequently used bacteriologic test for TB detection in Nigeria. Due to its poor sensitivity, it has become necessary that the country introduce new, rapid efficient and cost effective tools such as the GeneXpert. Also in line with the recent policy shift of the TB Program in country to use GeneXpert as the first line test where available, the CTB project through its grant procured and installed **34** GeneXpert machines during the reporting period. Equally, the project supported capacity building of **227 (126M; 101F)** laboratory staff on GeneXpert. In places where GeneXpert services were not available, CTB supported the transportation of a total of **17,891** sputum samples to GeneXpert sites to boost utilization of the machines during the reporting period. As a result, there was an average increase of about **30%** in GeneXpert assays performed. In all, a total of **75,536** sputa tested, **69,697(92%)** were successful tests. Of those tested, **13,149 (19%)** MTB positives were detected and **842(1.2%)** were Rif + cases.



Key Results

Table 2: Comprehensive High Quality Diagnostic Results

The key results indicates that about 95% of target for expansion of microscopy services was met. Also all reference laboratories are implementing one measure or the other of the laboratory quality improvement program. Targets were met for the expansion of GeneXpert services. Additionally, the project was able to meet about 93% of the target for total sputa tested during the year. The achievements recorded in expansion of laboratory services was largely due to the ability to plan and coordinate the assessment, renovation of the laboratory and GeneXpert sites prior to the delivery of the microscopes and Xpert machines. This ensured the readiness of the laboratory sites for quick installation on machines on delivery. Targets were however not met for specimen transportation. The reason for this is the late commencement of the sputum transportation which could only take place after the expansion of services.

#	Outcome Indicators	Indicator Definition	Baseline (Year/time frame)	Target	Result
				Y2	Y2
1	2.1.1. # of laboratories performing microscopy (stratified by LED florescence, Ziehl-Neelsen)	**Definition:** Number of laboratories performing microscopy (stratified by LED florescence, Ziehl-Neelsen) **Indicator Value:** Number **Level:** National and Challenge TB geographic areas	In 2014, 387 laboratories in the 12 states	Additional 96 microscopy sites established. Total labs = 507	In FY 16, total labs established is **93** bringing cumulative labs to **480** Till date **95%** of target have been met
2	2.1.2 A current national TB laboratory operational plan exists and is used to prioritize plan and implement interventions.	**Indicator Value:** Score based on the following: 0= Operational plan not available 1= Operational plan available 2= Operational plan available and follows standard technical and management principles of a quality work plan required for implementing the necessary interventions to build and strengthen the existing TB laboratory network 3= Operational plan available and meets annual implementation targets	0	2	1 There is a draft plan available and in the. CTB has made provision in APA 3 for the finalization

3	2.2.2. #/% of laboratories showing adequate performance in external quality assurance for smear microscopy	**Numerator:** Number of laboratories that successfully passed EQA for smear microscopy **Denominator:** Total number of laboratories enrolled in EQA for smear microscopy **Indicator Value**: Percent **Level:** National and Challenge TB geographic areas	CTB states: 97% concordance rate (2014)	95% is benchmark for national, so same as target	Result for the year not yet available
4	2.2.6 Number and percent of TB reference labs (national and intermediate) within the country implem-enting a TB-specific quality improvement program i.e. Lab Quality Management System (LQMS).	**Numerator:** Number of TB reference laboratories implementing a quality improvement program **Denominator:** Total number of TB reference laboratories in the country **Level:** National and/or Intermediate	National: 5 out of 8 Reference Laboratories functioning well 2014	8	8 (100%) All 8 reference labs are implementing LQMS, but at different levels.
5.	2.2.7. Number of GLI-approved TB microscopy network standards met	**Indicator value:** Number **Numerator:** Total number of standards met (NE=not evaluated, 0=no standards have been met).	6 out of 11 (2015)	8 out of 11 standards	6 of 11 (55%) standards were met. (1, 2, 5, 6, 7 and 11).
6.	2.4.1. GeneXpert machine coverage per population (stratified by Challenge TB, other)	**Numerator:** Population size (the numerator is available from the most recent census data). **Denominator:** Total number of GeneXpert machines in the country/area. **Indicator Value:** Number **Level:** National and Challenge TB geographic areas	CTB: 23 Xpert machines in 12 states (2014) 2015 = 31	27 additional Xpert machines + existing 31 machines = 58 total Xpert machines in 12 states.	34 machines have been installed (12 machines were procured through PEPFAR grant). To date, there are 65 Gene Xpert machines across the 12 states. The target have been surpassed by addit-ional 7 machines (12%), although not all were provided by CTB
7	2.4.2. #/% of Xpert machines that are functional in country (stratified by	**Numerator:** Number of Xpert machines that are functional **Denominator:** Total number of Xpert machines **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas.	100% (CTB 2014)	100%	There are 131 Gene Xpert machines in the 12 states. 121 were functional at time of reporting (92.3%)

	CTB, other)				
8	2.4.3. MTB positivity rate of Xpert test results	**Numerator:** Number of MTB positive samples **Denominator:** Total number of samples from suspected TB cases tested using Xpert test (excluding invalids, errors, no results). **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas	25.4% National figure (2014 Annual Report)	NA	MTB positives were 13,149 ie 19% of total successful tests. Gender proportion showed that 56% (7384) were males
9	2.4.4. Rifampicin resistance rate of Xpert test results	**Numerator:** Number of rifampicin resistant samples **Denominator:** Total number of samples from cases tested using Xpert test (excluding invalids, errors, no results). **Indicator Value**: Percent **Level:** National and Challenge TB geographic areas	3.2% (National figure 2014 Annual Report)	NA	Rif+ cases were 842 with more males 484 (57.5%)
10	2.4.5. % unsuccessful Xpert tests	**Numerator:** Number of unsuccessful Xpert tests **Denominator:** Total number of Xpert tests. **Indicator Value:** Percent **Level:** Challenge TB geographic areas	3.5% (CTB 2014)	Below 3.5%	Of total assay performed, 5839(7.7%)
11	2.4.7. % of labs using WHO approved rapid diagnostic tools (disaggregated by type: Xpert MTB/RIF, LPA, etc.)	% of labs using WHO approved rapid diagnostic tools **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas	25 (FY 15 baseline)	NA for LPA CTB: Gene Xpert = 58	Total labs in CTB supported LGAs is 480 with 80(17%) Gene Xperts
12	2.4.8 NIGERIA SPECIFIC: Number of Xpert MTB/RIF assays performed	**Definition:** Total number of sputa tested in reporting period	TB CARE I: 6,353 tests in 11 machines in 2014 = 1,588 tests/quarter	350 * quarter (4) * 58 machines = 81,200 tests	75,536 tests were conducted indicating that 93% of target was met
13	2.6.7. NIGERIA SPECIFIC: # of sputum samples transported to GeneXpert sites with documented results	**Definition:** Number of specimens transported for TB diagnostic services via a specimen transport system **Indicator Value:** Number **Level:** Challenge TB geographic areas	TB CARE I: 100 samples/month using 0ne hub and 10 spokes (2014)	36,900 sputa transported	Cumulatively for FY16, a total of **17,891** sputa have been transported to Gene Xpert sites To date, **48.5%** of target has been met

14	2.3.1 Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded result	**Indicator Value**: Percent **Level**: National and Challenge TB geographic areas **Numerator**: Number of bacteriologically confirmed TB cases that are tested for drug resistance and have results recorded in the TB register. **Denominator**: Total # of bacteriologically confirmed TB cases notified during the reporting period	TBD	CTB LGAs 95%	Result for the year not yet available

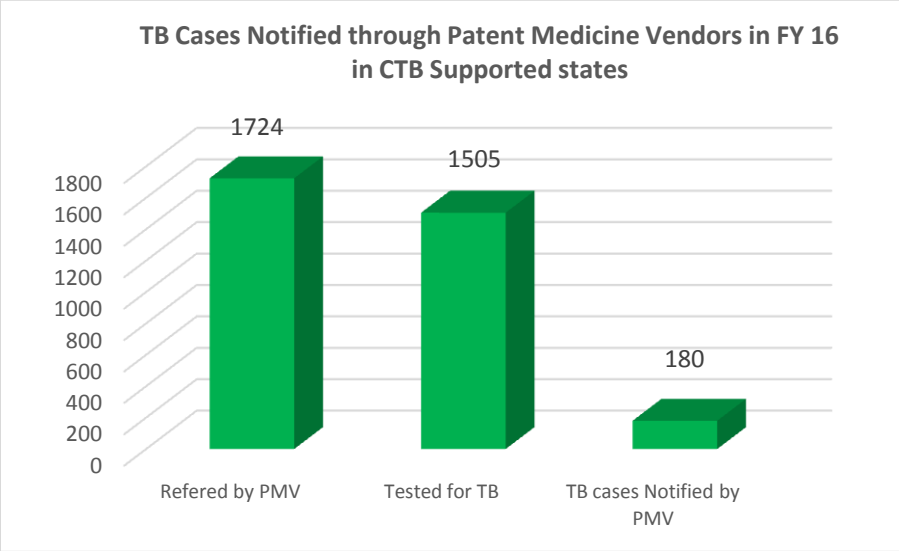
Sub-objective 3. Patient-centered care and treatment

Winner, a childhood TB patient

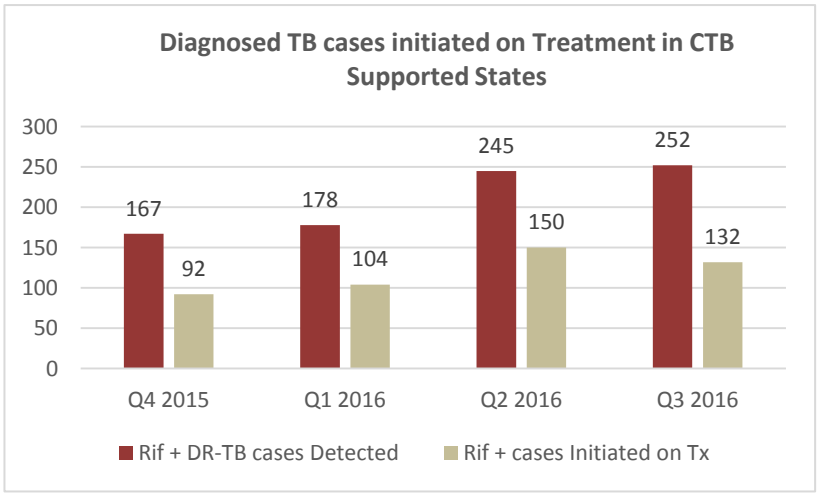
As part of activities to improve TB case finding among children, the project embarked on the mapping and sensitization of 5 high-volume pediatric sites in CTB-supported states with the aim of linking them up to the TB program in each state. In all, **35** pediatric clinics were linked to the TB program. To ensure the capacity of the pediatricians and health care workers to suspect and identify TB cases in children, CTB during the reporting period supported capacity building of **260** Clinicians (**116** M; **144**F) who were sensitized on childhood TB services. **700** copies of NTP guidelines were printed and the relevant NTP R&R tools were also provided to the facilities. Additionally through the engagement of consultant pediatricians, **81** supervision follow-up supervisory visits were conducted to the sites, with the aim of assessing utilization of knowledge gained during the capacity building and to review any childhood TB cases on treatment in the facilities being supported. INH drugs and registers were provided to some of the facilities. On-the-job training was conducted for HCWs on INH registers. Other issues addressed include improving sub-optimal documentation practices and ensuring community referral mechanisms.

Participants with Facilitators at a DOTS Expansion Training in Eket, Akwa Ibom State

In line with the goal of the NTP to provide more people with TB services and to improve service delivery in the face of incessant health care worker strike and attrition, the CTB project expanded Directly Observed Treatment (DOTS) centers to **188** new sites during the year (**102** private and **86** public facilities). Through assessment visits to the selected sites, **16** DOTS sites were renovated and/or refurbished to enable them to function better. **559** DOTS providers (**M244; F315)** were trained to provide TB services. The CTB team ensured that the facilities were provided tools and mentored on the NTBLCP recording and reporting materials whilst **173** nonfunctioning DOTS sites have been re-activated since onset of project.



Evidence from the cough-to-cure pathway have noted the role played by community Patent Medicine Vendors (PMV) as the entry point of the diagnostic pathway of presumptive TB cases in the various communities. To reduce infectiousness of TB in the communities, there is need for prompt identification and referral of patients. To this end, CTB conducted a mapping of PMVs in Lagos, Kano, Katsina, Cross Rivers and Rivers States. Through the exercise, **504 (292M; 212F)** PMVs and Community Pharmacists (CP) were oriented whilst **184** were engaged and provided with requisite recording and reporting materials for referral of presumptive TB cases. As a result of this exercise, **1,724** presumptive TB cases were referred, in Kano, Katsina, Rivers and Cross Rivers; **1,505** were bacteriologically tested and from these, **180** TB cases identified of which one was a rifampicin-resistant TB case. All were linked to appropriate treatment.



In continued support of the enrolment of drug-resistant TB patients, CTB trained a total of 28 HCWs on the programmatic management of DR-TB patients for enrolment in communities. Since the completion of the trainings, a total of **842** DR TB patients have been diagnosed across the 12 supported states. Of these, the project supported the enrolment of **478 (M314; F164)** new DR-TB patients across the 12 CTB supported states In addition, economic and social support (food, transportation etc.) was provided cumulatively for **620** patients who were discharged into the community irrespective of where they initiated treatment. The essence of the support is to ensure adherence to TB treatment and curtail the transmission of DR-TB strains in the communities. DR-TB patients in need of hearing aids were also supported to access one during the reporting period. A total of **27** DR-TB patients were fitted with hearing aids.

Key Results

The targets for DOTS expansion and MDR-TB receiving economic supports were met. Equally, about **96%** of the target for TB patients with HIV result was met. On the whole, the reason that can be adduced for the inability to meet the target for all forms of TB cases notified is largely due to the health system challenges which the country continues to face. Most of the states continued to experience strike actions coupled with the lack of financial resources to pay workers' salaries which leaves HCWs demoralized and demotivated. CTB will continue to explore the option of engagement of private facilities in the delivery of TB services across the 12 states. About **42%** of total target for DR-TB cases to be enrolled was met. This can be attributed to the fact that there were delays in the receipt of drugs due to stock-out of some second-line anti-TB drugs during the period by states even when patients have completed baseline investigations. CTB does not provide the drugs for the initiation of DR-TB cases into treatment but will continue to work through the CTB/WHO staff to assist the NTBLCP in drug quantification to prevent future stock-outs.

Table 3: Patient Centered Care and Treatment

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target	Result
				Y2	Y2
1	3.1.1. # and % of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach	**Numerator:** Number of TB cases all forms (bacteriologically confirmed + clinically diagnosed; includes new and relapse cases) reported (by setting/ population/ case finding approach) nationally and in Challenge TB geographic areas in the past year **Denominator:** Total number of TB cases (all forms) notified nationally and in Challenge TB geographic areas	Total TB cases notified (all forms) = 17,204 (baseline for 151 LGAs 2014)	FY 16 Total TB cases notified - Annual (all forms) in 2016 = 24,273	18,726 TB cases were notified in CTB supported 151 LGAs across the 12 states indicating that 77% of the target for the year was met
2	3.1.2. #/% of cases notified (new confirmed)	**Numerator:** Number of new bacteriologically confirmed TB cases reported in the past year. A new case is a TB patient who has never had treatment for TB or who has taken anti-TB drugs for less than one month. A bacteriologically confirmed TB case is one from whom a biological specimen is positive by smear microscopy, culture or WHO approved rapid test (such as Xpert MTB/RIF). **Denominator:** Total number of new TB cases (bacteriologically confirmed + clinically diagnosed)	92% of 17,204 = 15,828	92% of 24,273 = 22,331	70% of cases notified were new cases (13,085/18,726). Whilst only 59% of the target was met

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
3	3.1.3. Case notification rate	**Indicator Value:** Number per year per 100,000 population **Level:** National **Numerator:** Number of new and relapse TB cases (bacteriologically confirmed plus clinically diagnosed) reported to the NTP during a year **Denominator:** Population size (available from the most recent census data)/100,000	National = 52/100,000 (2014) CNR for assigned LGAs (CTB): 45/100,000	CNR for assigned LGAs = 63	The CNR during the year is 48 for the CTB supported LGAs
4	3.1.4 # of MDR-TB cases detected	**Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** Number of bacteriologically confirmed MDR-TB cases diagnosed during the reporting period	Total FY 15 = 237	Total FY 16 = 1,191	842 DR TB cases detected during the year. 71% of the target was met
5	3.1.7. Childhood TB approach implemented	**Indicator value: Score based on below:** 0=childhood TB is not mentioned in the NTP Strategic Plan; 1=Childhood TB is in the strategic plan, but no activities are implemented on childhood TB; 2=activities are being piloted or are implemented in select sites; 3=childhood TB is an integral part of the NTP strategic plan and regular activities nationwide. **Level:** National	NA	3	3
6	3.1.8. % of TB cases (all forms) diagnosed among children (0-14)	**Indicator Value: Percent** **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB cases (bacteriologically confirmed + clinically diagnosed; includes new & relapse cases) diagnosed in children 0-14 years of age in the past year. **Denominator:** Total number of all TB cases (bacteriologically confirmed + clinically diagnosed; includes new & relapse cases) reported in the past year	National =6%	10%	2881 (7%) all forms of TB were diagnosed among children. Thus the target was not met

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
7	3.2.1 Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums, etc.).	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of new and relapse TB cases (all forms) registered in a specified period that were cured or completed treatment **Denominator:** Total number of new and relapse TB cases (all forms) registered in the same period	Total FY 15 = 91%	Total FY 16 = 94%	Treatment success rate was 86% (23508/27386) Target for the indicator was not met
8	3.2.3. #/% of HFs with TB services/DOTS	**Numerator:** Number of health facilities providing TB services/DOTS **Denominator:** Total number of health facilities in the area	FY 15 = 1,190 existing DOTS centers/CTB and 2,307 for the whole states	FY 16 - Additional 151 new sites + existing 1,190 = 1,341 for only CTB LGAs	188 new DOTS facilities established, bringing a total DOTS site to 1,378 in CTB LGAs. The target was surpassed by 2.8%
9	3.2.4 Number of MDR-TB cases initiating second-line treatment	**Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** The number of confirmed or unconfirmed MDR-TB patients started on second-line treatment in the reporting period	Total FY 15 = 226	Total FY 16 = 1,132	478 DR-TB patients have been newly enrolled during the period representing 42.2%% of the target is met.
10	3.2.7. Number and percent of MDR-TB cases successfully treated	**Indicator Value: Percent** **Level:** National and Challenge TB geographic areas **Numerator:** Number of confirmed MDR-TB cases successfully treated (cured plus completed treatment) **Denominator**: Total number of confirmed MDR-TB patients enrolled on second line TB treatment during the reporting period. **Denominator:** Total number of confirmed MDR-TB patients enrolled on second line TB treatment during the	61%	65%	Results is not yet available

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
		reporting period.			
11	3.2.9. % of MDR-TB patients still on treatment and culture negative 6 months after starting MDR-TB treatment	**Numerator:** Number of pulmonary MDR-TB patients in a calendar year cohort who initiated SLD treatment and who have culture conversion latest at 6 months of treatment (having had 2 negative sputum cultures taken one month apart and remained culture negative since) **Denominator:** Total number of MDR patients who completed 6 months SLD treatment period in the calendar year	baseline as at Q1 2014, Community PMDT = 68.5%	Maintain Community PMDT = 70%	Results is not yet available
11	3.2.11. % of HIV+ registered TB patients given or continued on CPT during TB treatment	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of HIV-positive TB patients, registered over a given time period, who receive (given at least one dose) CPT during their TB treatment **Denominator:** Total number of HIV-positive TB patients registered over the same time period.	National: 87% tested for HIV - (2013) CTB assigned LGAs: 73.2%	100%	A total of 5822 (84%) HIV positive patients accessed CPT in the 12 supported states and 62% (2422/3904) in the CTB supported LGAs during the year. Target for the indicator was not met
12	3.2.12. % of HIV-positive registered TB patients given or continued on anti-retroviral therapy during TB treatment	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** All HIV-positive TB patients, registered over a given time period, who receive ART (are started on ART) **Denominator:** All HIV-positive TB patients registered over the same given time period.	National: 67% (2013) CTB assigned LGAs: 60.6% (2014)	>75%	A total of 4,342 (62%) Co-infected patients were placed on ART in the 12 states and 1920(49%) in CTB supported LGAs. Target for

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
					the indicator was not met
13	3.2.13. % TB patients (new and re-treatment) with an HIV test result recorded in the TB register	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB patients registered over a given time period with an HIV test results recorded in the TB register. **Denominator:** Total number of TB patients registered over the same time period.	National: 88% tested for HIV - (2013) CTB assigned LGAs: 82.2%	100%	A total of 39,941 (96%) HIV positive TB patients were tested for HIV during the year in 12 states and18, 276 (98%) in CTB LGAs in 12 states.
14	3.2.22. #/% of TB patients followed by community-based workers/volunteers during at least the intensive phase of treatment	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB patients registered in a specified period that were followed by CB workers/ volunteers during at least the intensive phase of treatment **Denominator:** Total number of TB patients registered in the same period in the area	National: 56% of enrolled patients managed by a TS (treat-ment sup-porter) (2013) CTB: TBD	70%	A total of 29325(70.3%) TB patients are managed by CV/TS in the 12 states and 12,467(67%) TB patients were managed in the CTB supported LGAs in 12 states during the year. Target for the indicator was not met.

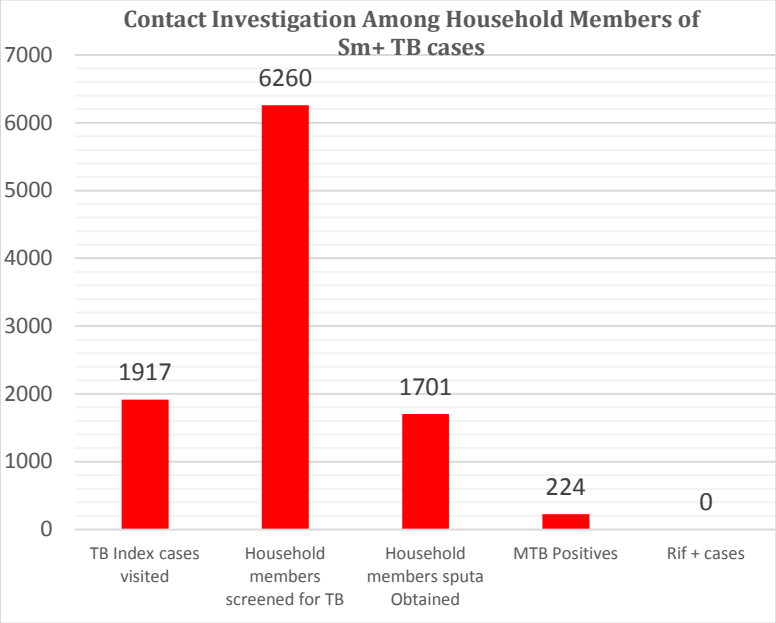
#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
15	3.2.24 % MDR patients who receive social or economic benefits	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of MDR-TB patients who receive any social or economic benefits during the first month of SLD treatment **Denominator:** Total number of MDR-TB patients initiating SLD treatment during the reporting period	100%	100%	All 478 DR-TB patients enrolled were provided economic support

Katsina state team on PMDT supervision at Kadisau village in Kano state.

Katsina State STBLCO and KNCV Staff during Childhood TB supervision in Katsina State

Objective 2. Prevention

Sub-objective 4. Targeted screening for active TB



Evidence shows that contacts of TB patients are a high-risk group for developing TB, particularly within the first year after close contact with a person with infectious TB. Among the risk groups identified are children less than 5 years of age and persons living with HIV amongst others. Thus, investigating such contacts of patients with tuberculosis (TB) is a priority for TB control in Nigeria. The Challenge TB project as part of its activities during the year embarked on contact investigation of smear-positive pulmonary TB patients notified in the 12 supported states. Through a series of activities such as the provision of transportation, the health care workers, Local Government Supervisors and community based organizations conducted series of visits to TB patients' houses to screen their contacts for TB. In all, a total **1,917** index TB patients were visited during the reporting period. From those visited **6,260** contacts were screened for TB. From those screened **1,701 (27%)** sputum collected for investigation. Of those investigated **224 (13.1%)** MTB positives cases were identified. All those identified were assisted and linked to TB program for care.

Key Results

The target was met and surpassed by about 37% for the indicator. The only tenable reason for this is probably due to concerted efforts by CTB to ensure that children receive equitable access to TB services which was achieved through the active contact investigation of TB patients in the communities. Due to the yield, more effort is being invested in this process by the respective states.

Table 4: Targeted Screening for Active TB

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
1	4.1.2. #/% of children (under the age of five) who are contacts of bacteriologically-confirmed TB cases that are screened for TB	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of children (<5) who are contacts of bacteriologically-confirmed TB cases that are screened for TB **Denominator:** Total number of children (<5) who are contacts of bacteriologically-confirmed TB cases	9,018 (87%) National 2015) 908 (CTB) Data is for one Quarter of FY15	4000	5468 children screened for IPT in the 12 supported states. Target was met and surpassed by 37%

Sub-objective 5. Infection control

The Challenge TB project, leaning on the lessons learned in the pilot of the FAST Strategy in 12 health facilities, scaled up the approach under the CTB project to a total of **15** health facilities in three states (Akwa Ibom, Benue and Lagos). A total of sixty-eight **(68)** health care workers (M=39; F29) were trained on the FAST strategy whilst an additional **199** participants **(M=106; F=93)** were sensitized on FAST. To aid the smooth implementation, **28** supervisory visits were conducted to the sites by CTB staff in the states. As a result of the implementation of FAST, average time to diagnosis in Lagos was 85.3% for 2 days or less compared to 19.2% at baseline while there was an increase in time to treatment (35.6%) compared to 21.9% at baseline. In Benue state average time to diagnosis is 79.8% compared to baseline figure of 47.9% while time to treatment was 76.6% for 2 days or less compared to baseline figure of 46.9% at baseline. Similarly in Akwa Ibom state, the average time to diagnosis for 2 days or less was 66.7% compared to 49.6% at baseline whilst time to treatment was 54.5% compared to 66.3% at baseline. The lack of sufficient improvement in the Akwa Ibom state can be attributed to the short supply of drugs and incessant strike actions.

All 15 facilities had administrative infection control in place using the FAST strategy to reduce transmission of TB in high burden ART and TB facilities by shortening time to diagnosis and time to treatment. Of **866** health care workers tested for TB during the year in the 12 states, **16.3% (141)** were diagnosed with TB and **10 (1.2%)** were Rif+ cases.

Table 5: Infection Control Results

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
1	5.1.3. #/% of TB IC (i.e. FAST) certified health facilities	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB IC certified health facilities in the area **Denominator:** Total number of health facilities in the area	12 facilities in 6 states (under TB CARE I project)	15 facilities in 3 CTB states	15 (100%) Target met

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target	Result
				Y2	Y2
2	5.1.4. % of TB service delivery sites in a specific setting (ex, prison-based, hospital-based, private facility) that meet minimum infection control standards	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB service delivery sites that meet minimum IC standards in the area **Denominator:** Total number of TB service delivery sites in the area	NA	15	100% - All 15 facilities had administrative component of Infection control.
3	5.2.3 Number and % of health care workers diagnosed with TB during reporting period	**Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of HCWs diagnosed with TB (all forms) during past year **Denominator:** Total number of HCWs in the same year	NA	N/A	141 (16.3%) across the 12 states. 10 Rif+ cases were also diagnosed

Sub-objective 6. Management of latent TB infection

Even though CTB does not procure isoniazid for children, during supervisory visits CTB project officers in each state provide oversight and monitor to ensure that under-6 contacts of smear-positive TB patients are screened for TB and that eligible contacts are placed on treatment. The results for the year showed that a total of **5,468** children were screened for TB across the 12 states. Of those screened, **4508 (82%)** were found eligible for IPT and **3371(75%)** were placed on IPT. Intermittent shortages in drug during the year could account for the low number of children placed on IPT. As mentioned earlier CTB will continue to provide support to the NTBLCP in the area of drug quantification.

Key Results

Table 6: Management of Latent TB Infection Results

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target	Result
				Y2	Y2
1	6.1.11 Number of children under the age of 5 years who initiate IPT	**Description:** The number of children under the age of 5 years who initiate Isoniazid Preventive Therapy (IPT) during the reporting period. **Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** The number of children under the age of 5	6,254/7380 (85%)National 2015CTB (505) Data is for FY 15 one quarter	2,700	A total of 3371 children were placed on IPT. The target was met and surpassed by 25%

		years who initiate IPT during the reporting period.			

Objective 3. Strengthened TB Platforms

Sub-objective 7. Political commitment and leadership

As part of the support to State TB programs during the year, six states were assisted to develop their state-level costed operational plans to serve as a means for resource mobilization from both government and partners. The finalized plans are yet to be printed and shared with the state. In order to ensure the quality of reported data, CTB in conjunction with the NTP staff periodically scheduled supervision & mentoring visits to DOTS, TB microscopy and GeneXpert sites.

Key Results

These are mandatory indicators and at the moment the information on both indicators below is not available. The CTB project will continue to work the NTBLCP and the Global Fund principal recipients to see how indicators can be reported in future. Similarly for CTB there is no private cost share at the moment.

Table 7: Management of Latent TB Infection Results

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
1	7.1.1. % of the national TB strategic plan that is funded (from government funds, Global Fund grants, donors, etc.)	**Indicator Value:** Percent **Level:** National **Numerator:** The amount of funding allocated for TB NSP activities **Denominator:** Total estimated NSP budget amount	NA	NA	NA The result is not available from NTP at the moment
2	7.2.3. % of activity budget covered by private sector cost share, by	**Indicator Value:** Percent **Level:** Nationally for activities at national scale and in Challenge TB geographic areas for activities focused in specific geographic areas where Challenge TB is working. **Numerator:** Amount of private sector cost share covering CTB	NA	NA	NA

	specific activity	project activity during most recent fiscal year **Denominator:** Total CTB project activity budget plus private sector cost share amount during the year of assessment.			

Sub-objective 8. Comprehensive partnerships and informed community involvement

During the reporting year the Nigeria STOP TB Partnership with significant support from USAID/Challenge TB, NTBLCP and other TB stakeholders held its maiden National Tuberculosis Conference in May 2016 in Abuja, Nigeria with the theme "The Hidden Face of Tuberculosis: Challenges in Identification and Management among Vulnerable Groups in Nigeria". Also as part of the coordinating mechanism, CTB, USAID and other key partners participated in Global Fund Principal Recipient/Sub Recipient meetings and the planning meetings held in country. Additionally, CTB through WHO has been instrumental in supporting the Global Fund and provided support to the NTBLCP and the GF PR in facilitating the annual data review, harmonization and validation workshop. Similarly, the startup meeting for the NFM implementation for program managers from the 22 high burden states was supported actively. Key action points to fast track the implementation of the NFM were developed during the meetings for all the TB thematic areas such as PPM, TB/HIV, DR-TB, DOTS expansion and key program issues. All these have created an enabling and conducive environment for the implementation of GF activities in the country.

Key results

Even though CTB does not directly invest, CTB has provided oversight and where necessary participated in meetings where decisions are taken to resolve some of the challenges and obstacles to implementation of GF activities. Also through collaborative meetings, CTB and GF have ensured that activities are not double-funded thus improving efficient and judicious use of funds.

Table 8: Comprehensive Partnership and Informed Community Involvement Results

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
1	8.1.3 Status of National Stop TB Partnership	**Indicator Value:** The score based on below: 0= no National Stop TB Partnership exists 1= National Stop TB Partnership established, and has adequate organizational structure; and a secretariat is in place that plays a facilitating role, and signed a common partnering agreement with all partners; but does not have detailed charter/plan, and does not meet regularly/ produce deliverables; 2= National Stop TB Partnership established, has adequate organizational structure and in a participatory way has developed detailed charter/plan, but does not meet regularly and does not produce deliverables; 3= National Stop TB Partnership established, has adequate organizational structure, has developed detailed charter/plan, meets regularly and critical deliverables are produced	0	2	2

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
		Level: National			
2	8.1.4. % of local partners' operating budget covered by diverse non-USG funding sources	**Indicator Value:** Percent Level: Challenge TB geographic areas **Numerator:** Amount of CTB local partners' operating budgets covered by non-USG funding sources (TGF, WB, EU, ADB, DFID, private donations, investment income, other revenue, etc.) **Denominator:** Total operating budget of CTB local partners' operating budget (USG + non-USG sources) during the year of assessment.	None in APA1	Not applicable	29.1% Data reported here is for Riders a partner on PEPFAR grant
3	8.2.1. Global Fund grant rating	**Indicator value:** Score is based on the following: A1 Exceeds expectations A Good performance A2 Meets expectations B1 Adequate B2 Inadequate but potential demonstrated C Unacceptable **Level:** National	B2 and A1 for both PRs (ARFH and IHVN respectively) 2014	Not applicable	B1 for ARFH and A2 (IHVN) Data reported here is as provided by the NTBLCP

Sub-objective 9. Drug and commodity management systems

This is a mandatory indicator, in which CTB does not currently invest. However, during the year there were stock-outs of drugs reported, though information on the number and quantity cannot be ascertained. Issues of stock-out are reported during the state and zonal review meetings by the program managers in each state. The indicator is not routinely reported by the NTBLCP.

Key Results

There are no key results for the activity, CTB did not intervene in the area in the reporting period.

Table 9: Drug and Commodity Management Systems Results

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
1	9.1.1. # of stock outs per [year] of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)	**Indicator Value:** Number **Level:** This indicator should be reported at whatever level a stock out that results in interruption of treatment occurs.	NA	NA	There have been stock-outs but this is not routinely tracked by NTP

Sub-objective 10. Quality data, surveillance and M&E

During the reporting period CTB embarked on an inventory study to determine the magnitude and scale of under-reporting by the private and public sector in Lagos state. Thus far on the project, the protocol for the study has been finalized and the ethics approval obtained. The study will commence in October 2016. Additionally, as part of the upstream assistance provided the NTP, CTB supported the printing of national recording and reporting materials to bridge the gap in the stock-out of national tools pending Global Fund printing and distribution. The tools were distributed to the 12 CTB-supported states irrespective of coverage area. The manuals will aid GHCWs and stakeholders alike in the management and implementation of strategies for the control of TB, Leprosy and Buruli. The tools included **700** copies of National TB and Buruli Ulcer Management guidelines, **75,000** treatment cards, **85,000** Patient appointment cards, **10,000** sputum request forms, **2,000** Laboratory Registers and **5,000** Presumptive clinic registers. Also the project printed and distributed **250** copies of Challenge TB bulletin where information is provided on the progress of CTB implementation.

Key Results

The key result under this objective is the successful implementation of approaches such as the sputum transportation system using the Hub and Spoke model. Facilities in CTB-supported LGAs were mapped around GeneXpert sites and the facility staff were supported with funds to transport sputum to GeneXpert sites. Similar to the process above the health care personnel and LGA TB & Leprosy Supervisors were provided transportation fares to visit the houses of index smear-positive TB patients to investigate their contacts. There were no surveys during the reporting period as surveys on large scale due to high costs are only conducted periodically (see section on Patient Centered care above). The NTP has not conducted any survey in the reporting period given that the last survey was conducted in 2012. Similarly the TB inventory study and the study of TB patient's health-seeking behavior during industrial actions is just about to commence and as such no dissemination has been conducted.

Table 10: Quality Data, Surveillance and M&E Results

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
1	10.1.4 Status of electronic recording and reporting system	**Indicator value**: Score based on below: 0=R&R system is entirely paper-based; 1=electronic reporting to national level, but not patient/case-based or real time; 2= patient/case-based ERR system implemented in pilot or select sites (TB or MDR-TB); 3=a patient/case-based, real-time ERR system functions at national and subnational levels for both TB and MDR-TB; 4= a patient/case-based, real-time ERR system is functional at national and subnational levels for both TB and MDR-TB completely and meets WHO standard for TB surveillance data quality **Level**: National	1	3	Score is 2. At the moment there is patients-based ERR for DR-TB at National and sub-national levels across the country. However for DS TB, the patient based ERR has only been piloted in 4 states. The roll-out plan is available for the remaining 33 states and is planned for November 2016
2	10.2.1. Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented	**Description**: National TB surveillance system is certified based on WHO standards and benchmarks for TB surveillance and vital registration systems (for paper-based or electronic systems). For a country's TB surveillance systems to be certified as providing a direct measurement of TB cases and TB deaths, all 10 standards and their associated benchmarks (Part B, Section 1) should be met. **Indicator Value**: Yes/No **Level**: National	NA	NA	There was no assessment during the reporting period. The last assessment took place in 2012 by WHO, since then there has been a lot of revision and updates to data collection tools and M&E surveillance system.
3	10.2.2. Prevalence survey conducted/completed in the last three years	**Description**: TB prevalence survey has been conducted/completed within the last three years **Indicator Value**: Yes/No **Level**: National	Most recent prevalence survey conducted in 2012.	N/A	No prevalence survey during the reporting period
4	10.2.3. DR-TB surveillance survey conducted/compl	**Description**: DR-TB prevalence survey has been conducted/completed within the last five years **Indicator Value**: Yes/No **Level**: National	Most recent DR-TB surveillance survey	NA	No DR-TB prevalence survey done during the reporting period

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
	eted in the last 5 years		conducted in 2010 but result available in 2012.		
5	10.2.4. #/% of operations research, evaluation or epidemiological assessment study results disseminated (stratified by level of dissemination: report, presentation, publication)	**Indicator Value**: Percent **Level**: National **Numerator**: Number of studies with results disseminated during the reporting period **Denominator**: Total number of studies conducted during the reporting period	1 study in APA 1. (About to commence field work)	1	0% (where information is provided on the progress of CTB implementation)
6	10.2.5. # of successful approaches identified to improve TB diagnosis and treatment	**Indicator Value**: Number **Level**: National **Numerator:** Number of successful approaches identified to improve TB diagnosis and treatment	N/A	2 (Sputum transportation and Contact investigation)	2
7	10.2.6 % of operations research project funding provided to local partner (provide % for each OR project)	**Indicator Value**: Percent **Leve**l: Challenge TB geographic areas **Numerator**: Amount of operations research project funding provided to local partner by Challenge TB during a year **Denominator**: Total Challenge TB operations research budget during the year of assessment.	NA	NA	None in the reporting period. The OR is just about to commence
8	10.2.7 Operational research findings are used to change policy or	**Description**: For all Challenge TB-supported operation research projects implemented in a country, results of these projects are used to change policy or practices (ex. change guidelines or implementation approach). Relevant data are collected/ presented for each individual project by special report with	NA	NA	At the moment the APA 2 grant has just commenced and the research activity has just commenced. The

#	Outcome Indicators	Indicator Definition	Baseline (Year/ time frame)	Target Y2	Result Y2
	practices (ex, change guidelines or implementation approach)	qualitative details. **Indicator Value**: Yes/No **Level**: National			expression of interest was disseminated and the research body (academic institution) has been identified. The contract is being developed

Sub-objective 11. Human resource development

Supervision and mentoring visits to DOTS, TB microscopy and GeneXpert sites were carried out; **780** supervisory visits were planned and **544 (70%)** were conducted during the quarter. Key issues addressed during the supervision include on-the-job mentorship and capacity-building of HCWs to address identified gaps on TB management and enhanced service delivery, replacement of some outdated tools, printing and distribution of R&R tools; advocacy to state and LGA authorities for uninterrupted political and financial commitment to State TB Program. Also the capacity of health care providers was built in the different thematic areas to increase their skill and knowledge and ensure their ability to deliver quality TB service. In all, during the year a total of **1,112 (M522; F560)** health care personnel were trained. All through the reporting period, CTB staff supported the planning and implementation of quarterly state review meetings across the states. The meetings provide an opportunity for the collation and validation of statistical data, review of program performance, provision of updates on new developments in the program and also serve as continuing professional development channel for Program Staff at all levels.

Key results

Fig. 5: KNCV and Ondo state team on supportive supervision in Ondo state

About **70%** of the supervision target was met due to competing demands by the state TB programs. The CTB team will continue to engage the state teams proactively to ensure that planned supervision is conducted as per a fixed schedule. Only **47%** of the target for training was met. This is because some activities were re-programmed. Possible reason for this is the change in the strategy in how trainings were conducted. Prior to now, trainings were conducted outside the facility environment thus restricting the number of personnel that can attend. With the change in paradigm, trainings under the CTB were mostly conducted on site, which enabled the participation of more health care workers than envisaged.

Table 11: Human Resource Development

#	Outcome Indicators	Indicator Definition	Baseline (Year/time frame)	Target Y2	Result Y2
1	11.1.2. % of planned supervisory visits conducted (stratified by NTP and Challenge TB funded)	**Indicator Value:** Percent **Level**: National and Challenge TB geographic areas **Numerator:** Number of planned supervisory visits conducted during reporting period **Denominator:** Total number of supervisory visits planned for the same period	NA	95%	70% (544/780) of planned supervisory visits were conducted
2	11.1.3. # of healthcare workers trained, by gender and technical area	**Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** Number of HCWs trained during the reporting period	NA	2,360 (both GHWCs and lab staff)	Total trained was **1**,112 (M522; F560) Target was not met
3	11.1.5 % of USAID TB funding directed to local partners	**Indicator Value:** Percent **Level: National.** Although CTB may be working with local partners in specific geographic areas, the overall total going to local partners at any level should be included in the numerator and compared to the overall country budget. **Numerator:** Amount of CTB country project funding directed to local partners during the most recent fiscal year **Denominator:** Total CTB country project budget during the most recent fiscal year.	NA	NA	15% ($85,723/$554,435) The data reported here is money made available to riders for Health from the PEPFAR grant.

3. Challenge TB Support to Global Fund Implementation

Current Global Fund TB Grants

Name of grant & principal recipient *(i.e., Tuberculosis NFM - MoH)*	Average Rating*	Current Rating	Total Approved/Signed Amount**	Total Committed Amount	Total Disbursed to Date
NGA-T-ARFH	NA	NA	$ 176,900,911	$ 152,286,741	$ 112,385,435
NGA-T-IHVN	NA	B1	$ 88,263,600	$ 59,825,629	$ 36,992,020

** Since January 2011*

*** Information obtained from GF website and as at October 10 2016*

In-country Global Fund status - key updates, current conditions, challenges and bottlenecks

- The Global Fund (PR – Association for Reproductive and Family Health - ARFH) provided a TB grant for the implementation of "Investing for impact against Tuberculosis and HIV" for the period of July 2015 to December 2017 for the scale-up of comprehensive TB in 22 priority states and 15 maintenance states during the reporting period. The full implementation took off in November 2015. Since approval of the grant, the GF signed MOUs with all the respective states whilst strengthening oversight functions on sub-recipients International Association of Anti-Leprosy Organizations (ILEP Partners). Startup meetings were held with program managers from the 22 high-burden states, who will be implementing the New Funding Model (NFM). Key points from the meeting included the need to fast-track the implementation of the NFM and action points were developed to aid this along each thematic areas: TB/HIV, DR-TB, DOTS Expansion and key program issues. The Office of Inspector General (OIG) report was extensively discussed during the reporting period at the PR/SR meeting and was equally shared to all TB stakeholders to ensure strict adherence to financial management systems; the PRs are equally intensifying their oversight functions over sub recipients at all levels. Major bottlenecks during the reporting period include four major factors: 1. occasional stock out of anti-TB medicines and GeneXpert cartridges in a few states; 2. the delayed arrival and clearance of first line anti-TB drugs; 3. industrial actions by all government workers including health care workers in several states; and 4. security challenges in the entire Niger Delta region and the North East states.

- For the MDR-TB activities implemented by the Institute of Human Virology Nigeria (IHVN) also operating for the same period July 2015 to December 2017, the grant received a concessional approval for a one-year transition period (July 2015 –June 2016) to give room for conclusion of the NFM grant implementation arrangements. Expressions of Interest (EOI) were advertised on the 27th of October 2015. Proposals received were evaluated. Since the implementation of the grant, states have continued to be supported in the enrolment of DR-TB patients and provision of social and economic support.

Challenge TB involvement in GF support/implementation and any actions taken during Year 2

- Through active participation of CTB, USAID and other key partners on quarterly basis in the PR/SR meetings and the planning cell meetings; overall program performance were discussed and the role of different partners in complementing the efforts of NTBLCP were emphasized especially in the following areas: active case finding activities, drug and logistics management, laboratory

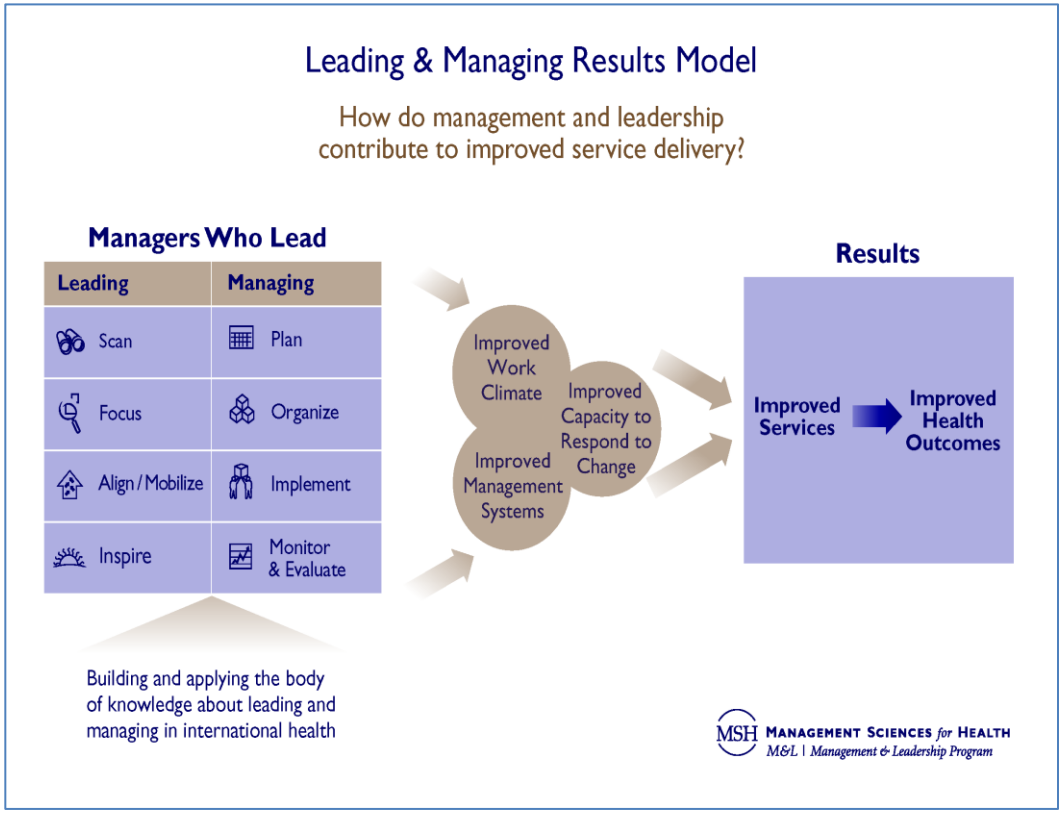
networks, DR-TB enrolment and quality of supervision at all levels. Additionally, the CTB/WHO staff have provided support to the NTBLCP and the GF PR in facilitating the quarterly data review, harmonization and validation workshops after quarterly review meetings. Through the meetings, the case notification data (M&E) were reviewed alongside the drug consumption data and harmonized. Identified gaps were resolved and appropriate recommendations made for improving data quality in the country. Similarly, CTB provided TA for partners' forum meetings in all the 12 states to ensure effective coordination of resources and effective implementation of activities at the state level.

- In collaboration with the Global Fund, CTB also supported the NTBLCP to conduct the GLC mission as well as the immediate interventions to respond to the findings of the mission. To bridge the shortages in the recording and reporting format in country, the CTB project printed and distributed to states, as a gap filling measure, **75,000** treatment cards, **85,000** Patient appointment cards, **10,000** sputum request forms, **2,000** Laboratory Registers and **5,000** presumptive clinic registers in the 12 CTB-supported states. Through active support of CTB, there was the mapping and redistribution of GeneXpert cartridges and first-line anti-TB drugs between states; CTB spearheaded a planning meeting to develop a draft road map for the introduction of new regimen for DR-TB. A major outcome of the meeting is that CTB will support the introduction of new regimen with external technical assistance.

APA 2 Work Plan Activities Implemented in Q4 2016

In August 2016 CTB received approval to the tune of $8,000,000 for the implementation of a Year 2 work plan of activities in 14 states. Two new states (Nasarawa and Ogun) are to be supported in the plan. The plan is building on the Year I work plan and will focus on demand creation in the communities and on improving access to TB diagnosis and treatment. Additionally, the plan will continue to provide support for the enrolment of diagnosed DR-TB patients in the communities. The Year 2 work plan is for a period of for a period of one year (Oct 1, 2015-Sept 30, 2016 and implemented by the three consortium partners unlike the Year 1 work plan, where only the lead partner (KNCV) implemented activities.

Fig 9: Leading and Managing Results Model



One of the significant achievements during the reporting period has been the Leadership Development Program plus (LDP+) for TB Program Managers at the State and Local government level *(Activity 11.1.2*). LDP-Plus is an updated version of the Leadership Development Program which aims to create an inspiring shared vision for accomplishing the mission of NTP programs by applying leading and managing practices to improve teamwork and effectiveness. The purpose of the training is to improve the coordination of TB programs in the supported states. Through targeted supervision the state programs will be supported to work more effectively. The LDP training is planned for all 14 CTB-supported states and the NTP. Thus far trainings took place in 10 states with the exception of Lagos, Akwa Ibom, Cross River, Kano and the National TBL Control Program. A Total of **150 persons (M: 96; F: 54)** were trained on LDP across the 10 states. As a follow up to the training, mentoring visits to assess the impact of the training as well as build capacity on local resource mobilization for sustainable TB program service delivery.

Planned Key Activities for the Current Year	Activity #	Progress till Date
Review and finalize key program guidelines	1.1.1	The Challenge TB project through WHO provided support and organized and facilitated the expert meeting for the finalization of the SOP for managing TB in crisis situations. This was done in collaboration with National Emergency Management Agency (NEMA), representatives from IDPs and other key partners to ensure delivery of uninterrupted TB services in time of crisis. The crisis situations include communal clashes; insurgence as we have in the North East; flooding; health workers' strike and other unforeseen situations. The SOP provided guidance on what should be done at the Health Facility, LGA, State and National levels during crises to ensure continuous provisions of TB services. Similarly, the expert meeting for the review of the National PPM Guidelines took place from 26th – 30th September 2016. This was done to enhance the engagement of private sector in the implementation of all components of TB control activities. In view of the incessant strike actions by the public health sector, engagement of the private sector has become imperative to facilitate uninterrupted provision of quality TB services to clients, reduce the number of patients developing drug-resistant TB due to poor management, increase TB notification and enhance National TB case detection rate.  Pic: Group Pic review of PPM guidelines  Pic: Group work during review of PPM Guidelines
Engage local CBOs to provide targeted community education and outreach for active case finding efforts in communities with high density (including	1.2.1	Within the period under review, outreach programs were held in selected communities/LGAs in Ogun state, in collaboration with Community based Organizations, the State TB Program, Ex-TB patients, lab unit of NIMR and PLHIV expert's trainers. The aim of the outreach activities was to create awareness and generate demand for TB services in the communities. CTB shared information on TB signs and symptoms, on availability of diagnostics and treatment services within the communities. We also informed them about the Challenge TB toll-free number to call to get more information about TB. Other services provided included diabetes screening, TB screening, HIV testing, Hepatitis screening and blood pressure checks. Sachets of worm expellant, multivitamins,

Planned Key Activities for the Current Year	Activity #	Progress till Date
slums), poor access to services, and low-performing LGAs.		mosquito nets and anti-malarias and sanitary napkins provided by Oasis Foundation were also distributed. In Akwa Ibom and Cross Rivers, the LGAs were identified through the assistance of the Ward Development Committee (WDC) and engaged, outreaches are yet to be carried out in the communities. • **6** outreach programs were held • **533** Number reached through outreaches, counseled and tested for HIV • **42** presumptive cases identified • **3** TB cases notified • **7** HIV-positive detected (M2, F5) All patients were linked to appropriate services for care
Determine the proportion of TB-affected households experiencing catastrophic total costs due to TB (WHO Core project).	1.4.1	Through WHO, the Challenge TB project supported NTBLCP in developing protocol and tools for the survey on catastrophic costs. The purpose of the survey is to determine the proportion of patients and household that experienced catastrophic cost due to TB. WHO-HO provided technical support to the expert meeting from 11th - 17th September 2016. The survey is proposed to be conducted in 40 clusters (LGAs) across 22 states in the country with a sample size of 1200. The protocol employed a random cluster sampling using probability proportional to size (PPS) method in the selection of the 40 clusters (LGAs). The survey will be conducted using an electronic tool. The sample electronic tool can be accessed from this link https://enketo.ona.io/x/#YKou. The successful development of the protocol and tool make Nigeria the second country in Africa after Ghana that has started implementing activities that will enhance reporting on catastrophic cost. WHO will facilitate the piloting of the developed tool and also support the NTBLCP in obtaining the necessary approval from Nigerian Health Research Ethics Committee. The actual survey, based on the work plan, will commence in January 2017 with support from CTB APA 3 and GF.  **Pic: Group picture of Participants at workshop**  **Pic: Group work on catastrophic costs**

Planned Key Activities for the Current Year	Activity #	Progress till Date
Co-organize CMEs with Medical and Nursing Associations (Activity	1.4.2	Continuous Medical Education sessions (CME) were held with the National Medical Association (NMA), National Medical Women Association (NMWA) and Nurses Associations in Rivers, Cross Rivers, Enugu, Akwa Ibom, and Kano states during the quarter. KNCV Country Director and staff, the states TB program Team and WHO Regional Staff made presentations at the sessions. The topic of discussion was ***"Tuberculosis Control in Nigeria: Where are the missing Cases?"*** Participants at the sessions included: • **698** Doctors • **27** Nurses and • **113** Medical Students For the participants in Kano, a table planner with the algorithm, list of GeneXpert sites in the state with details of contact persons were shared amongst other IEC materials.
In additional 2 states: assess factors related to non-performance of microscopy centers and institute appropriate actions to revitalize or replace those centers.	2.1.1	The CTB project expanded services to additional 2 states (Ogun and Nasarawa) during the reporting period. To enable the design of appropriate interventions in the states, the CTB project conducted a situation analysis of TB control in Ogun state from August 15-26, 2016. The purpose of the assessment amongst others is to assess the availability of services, identification of the potentials and existing opportunities in the state for possible expansion of services. The team comprising of NTBLCP, consultant, KNCV staff from Regional and Headquarters participated in the exercise alongside the states TB program. An advocacy visit was paid to the MOH where the team met with the Commissioner for Health in the state and other high profile staff of the Ministry to advocate for additional support of TB services in the state. The analysis is currently ongoing and findings will be used subsequently to develop state TB operational and costed work plans and will be the basis for future support from USAID. The assessment visit in Nasarawa state did not take place due to the industrial action at the time and was re-scheduled to take place next quarter.  Assessment Team in Group Picture with the Commissioner for Health and Permanent Secretary MOH
Expand microscopy sites in low-coverage LGAs where microscopy services are needed,	2.1.2	Assessment of health facilities for expansion of microscopy sites in low-coverage LGAs was conducted in Ogun and Kano state during the quarter. The assessment visits provided opportunity to identify possible microscopy sites for expansion of TB lab services, carryout needs assessment of needed items for AFB establishment, identify possible staff to be trained, infrastructural needs for

Planned Key Activities for the Current Year	Activity #	Progress till Date
i.e. replacement in non-functioning sites, where electricity is problematic and/or transport difficult, such that GeneXpert is not yet feasible		the expansion of TB microscopy services. Orders have been placed for the machines via the HQ while the BOQ was raised for the assessed sites. In all: • 6 Facilities were assessed during the quarter for renovations. • 6 Labs renovated and • 5 microscopes distributed
Organize lab improvement teams to improve staff competencies on good lab practices (GLP), biosafety, and AFB examination for all 4 states	2.1.3	The State Quality Lab Assurance Officers (SQAO) in Akwa Ibom, Enugu, Cross River and Rivers States were constituted into lab improvement teams and trained at the National TBL Training Center, Zaria, to improve staff competencies on good lab practices (GLP), biosafety, and AFB examination. The trained SQAOs soon after the state review meetings using the EQA results identified a total of eight poor performing sites, which they supported through mentoring. • **15** Facilities were supported through this process
Establish 20 additional GeneXpert sites not covered by GF in priority areas in collaboration with NTP and Global Fund and strengthen selected existing GeneXpert sites	2.4.1	A team comprising of state TBL team and KNCV staff carried out a rapid assessment of conditions of the labs in Ondo, Ogun, Bauchi and Katsina States to identify challenges and any other gaps at the facilities, which may hinder smooth installation and operations of the GeneXpert machines. In addition, CTB supported some identified GeneXpert labs with solar panels to boost power supply and efficient implementation of Xpert technology in Lagos and Ondo states as well as human resource personnel to aid the quick diagnosis of TB, prevent the refusal of samples and ensure the quick release of results of tests done in high burdened sites. To date: • **3** Xpert panels provided • **7** Human resource personnel provided
Scale up the integration and linkage of 5 additional pediatric service delivery points in the 12 original states and 5 additional pediatric service delivery points in the 3 new states for intensified TB case-finding & management	3.1.1	Within the period 5 additional high load pediatric sites were identified in Lagos, Katsina, Akwa Ibom, Cross River, Enugu, Rivers and Bauchi states during the quarter. In Lagos four (4) new pediatricians were engaged for expansion and implementation of childhood TB active case finding. As part of the activities of childhood TB, sensitization of healthcare workers was conducted. The sensitization meetings were aimed at creating awareness on childhood TB and linking high load pediatric service delivery points in each state for intensified TB case-finding in children. • **30** additional pediatric sites identified for childhood TB ICF • **336 (M156**; **F180**) HCWs sensitized on childhood TB
Scale up implementation of FAST strategy in high burden TB/ART sites. (Activity. 3.1.4)	3.1.4	Following advocacy to program managers and hospital management services, a total of 5 additional high burden TB and HIV sites were mapped and identified for the implementation of FAST strategy in Lagos, and Akwa Ibom States. While the strategy was expanded to Ondo, Osun, Bauchi, Kano, Katsina, Enugu, Cross River and Rivers States. Thereafter the facility health care workers were sensitized on the strategy and the importance of infection control and Knowledge gaps were also

Planned Key Activities for the Current Year	Activity #	Progress till Date
		addressed. In all; • **45** Facilities were engaged for FAST implementation • **516 (M273, F243)** HCWs were sensitized on FAST
Identify communities in which to conduct active case finding; assess services available; mobilize communities and set up M&E framework.	4.2.1	During the reporting period CTB facilitated a meeting with Ogun state TB program manager, Civil Society organizations (TB Network, Nigeria), the NTP and KNCV to identify communities within 5 densely populated LGAs where ACF activities will be conducted, using mobile digital X-ray with computer aided diagnostics and GeneXpert. The targeted population within the LGAs include 5 LGAs and communities within urban slum inhabitants, silica miners, contacts of DR and DS-TB patients, Out-patient clinics, Men in informal work settings such as mechanics, automobile transport industry (motor parks, motor cycle riders) etc. An assessment of these key population communities will be carried out in the first quarter of 2017. It is expected that the procurement of the mobile truck and all equipment included, will arrive in the 2nd quarter of 2017.
Support introduction of new drugs and new treatment regimens.	9.2.1	CTB facilitated country Technical Assistance by Marcela Tommasi and Gunta Dravniece for the development of development of the national roadmap for the phased implementation of the shorter MDR-TB treatment regimen and new drugs. The visit also provided the country the opportunity to assess the institutional capacity needs of the proposed treatment centers as well as support the country in adopting the Challenge TB Generic programmatic and clinical guide (covering RR-TB patient triage approach – short regimens and new drugs. At the end of the workshop, the participants adapted for Nigeria the diagnostic and treatment parts of Challenge TB generic programmatic and clinical guide for the introduction of shorter regimen and new drugs. Thereafter visits were paid by 3-6 persons to the first three introduction sites/states in Zaria/Kaduna, Jericho/Oyo and Port Harcourt/Rivers to agree on essential steps in preparation for patient enrollment in new shorter regimens and new drugs. Some immediate outcome of the visits were: • Insufficient coordination at state level – tasks for each team member are not fully clear and are not followed, limited supervision • Limited overview of patients at the state level – number diagnosed, diagnostic/treatment gap, tracing for treatment etc. • Limited overview and non-functional linkage of diagnostic and treatment facilities: capacity, geographic coverage, referral system and linkage • Referral system is not patient oriented – patients have to travel long distances to access diagnosis and treatment
E-tb manager relevant state activities (National level main support)	10.1.1	To enable the quick implementation of activities in the work plan, MSH hired two local support staffs (a Senior Technical Advisor and an IT Specialist) to provide support to the NTP on the successful implementation of E-TB Manager in Nigeria. Since the deployment of the staff, the Challenge TB project through MSH provided an International Short term technical assistance (STTA) to the NTBLCP in improving the National Electronic TB data management tool (E-TB Manager) to reflect

Planned Key Activities for the Current Year	Activity #	Progress till Date
		the current paper reporting tools. A total of 18 (67%) of 27 tasks of varying complexities were completed during the quarter under review. As a follow on to the new customizations, MSH supported the NTLCP in updating the E-TB Manager Training manual. Total number of persons who were supported to participate in the E-TB Manager Training Manual update review process was **6 (M4; F2)**.
Recognize well performing DOTS staff, LGA TBLS and state team members through participation at review meetings and mentorship opportunities	10.1.5	In the quarter under review, performing DOTS, LGA TBLS and state teams across Lagos, Osun, Ondo, Akwa Ibom, Rivers, Cross River and Enugu states were recognized through sponsorship of their participation at review meetings and mentorship opportunities. The essence of the support is to ensure continued performance improvement and to motivate the HCWs and State teams. Through this initiative CTB supported the participation of a total of: **11** DOTS Officers **4** Lab Focal Personnel **3** LGA TBLS and **5** State Team members to state and regional meetings.
Long Term Technical Assistance to NTP		Long term technical assistance was provided the NTBLCP through CTB/WHO staff on the National adaptation of the WHO recommended END TB strategy in August 2016. The meeting attended by expert from various organizations including CSO also supported the development of the framework for the implementation of END TB strategy at all levels in Nigeria. Similarly the NTP was supported on the finalization of Integrated National Guidelines on HIV/AIDS prevention, Treatment and care from 16th -19th August 2016. Almost all recommendations from the new WHO guidelines (WHO Consolidated Guidelines on HIV Prevention, Diagnosis, Treatment and Care- 2016 update) were adapted including: the treat all policy; retesting of clients prior to treatment; PrEP for sero-discordant couple; starting of TB treatment within 2 weeks for HIV positive TB patients with CD4<50.

4. Challenge TB Success Story

Childhood TB: She's a Winner!

As a single mother of four, Blessing Ihunwo wasn't too worried when her four-year-old daughter Winner fell while playing and developed a lump on her back, it was nothing strange, just a bump. She did, however, become very concerned when the swelling became very painful, increased in size and Winner started to be unable to move her limbs properly. She decided to take Winner to a traditional healer, and when this didn't help, she sought spiritual help by visiting her church. It was there that Blessing was advised to seek medical help and she was given some money to go to the University of Port-Harcourt Teaching Hospital (UPTH). At the UPTH, Winner was admitted to the chest clinic, where she was spotted by the USAID-funded CTB Nigeria team who were conducting their monthly supportive supervision visit. The CTB-appointed pediatrician immediately recognized the swelling as a symptom of childhood tuberculosis. Children are especially prone to spinal TB (Potts disease), which when not treated can lead to a collapse in the vertebrae and cause paralysis in one or both legs. The pediatrician's TB diagnosis was supported with chest X-ray results and Winner was immediately started on anti-TB treatment

After less than two months, Winner was already showing signs of improvement, she no longer felt pain in her back and was able to walk, run and play again. The swelling had also reduced in size and the sideways curving of her spine (scoliosis) had completely disappeared. In accordance with CTB's goals, Winner's family was educated about TB and how it is transmitted. Members of Winner's family and people who have been in close contact with her have also been traced and tested for TB, though none were found to be infected. They were counseled on how to help her adhere to and complete the 12 months of treatment. Thanks to CTB's investments in improving the healthcare system in Nigeria, Winner is now well on the way to recovery, after five months of treatment she is still monitored closely and receives orthopedic care alongside her TB treatment.

Finding the Missing Cases in Kano State

According to the WHO, up to 500,000 tuberculosis (TB) cases are missed by the health system in Nigeria each year, which means many people do not get the care that they deserve and need. When these people are left untreated, many of them will die, and every year they can infect between 10-15 other people with TB, so the epidemic continues. The Nigerian Medical Association (NMA) in collaboration with Challenge TB (CTB) Nigeria held the 2016 annual general meeting and Continuous Medical Education for Kano State with the theme: 'Tuberculosis Control Activities in Nigeria: Strategies for finding the missing cases'.

At a seminar attended by over 200 members of the Kano State NMA, the director of CTB Nigeria, Dr. Gidado, talked about "Strategies for Finding the Missing Cases". He reported that despite the fact that there are over 317 TB treatment centers in Kano, the case detection rate in the state is still far too low. A question and answer session following the presentation showed that few medical practitioners were aware of the actual status of TB control in the region.

Dr. Gidado participated in a one-hour live phone-in on Freedom Radio Kano, which has over two million listeners. On the show, he explained the challenges of fighting TB in Kano and Nigeria in general, and highlighted the disparity between the estimated number of TB cases and the actual number of cases being reported. He asked: "Where are the missing cases?" and challenged everyone to take responsibility for finding them by urging people with the symptoms of TB to seek immediate medical help.

By the end of program many health care workers and members of the public had been educated about TB and the need to actively participate in finding the missing cases. Now it is up to them to take up the challenge of helping to find, treat and cure the missing people and ultimately to eliminate TB in Nigeria.

5. Operations Research

Title of OR study	Local partners involved in study	Implementation Status	Key findings	Dissemination
Retrospective TB Inventory Study Among Public and Private Providers in Lagos, Nigeria	Lagos State TB and Leprosy Control Program (LSTBLCP), National TB and Leprosy Control Program (NTBLCP)	A planned methodology workshop took place in Lagos in January 2016, during which buy-in was also obtained from the state TB program manager and the Director of Public Health. Thereafter a draft protocol was developed presented at the 41st Tuberculosis Surveillance and Research Unit Meeting held at The London School of Hygiene and Tropical Medicine London. The updated draft study protocol was later shared with the Lagos state TB Program Manager for input. Simultaneously, the CTB team was able to conduct a de-duplication of the private facilities in Lagos as well as developed the study data collection and entry forms. Furthermore, the Diseases Surveillance Notification (DSN) data was requested from the Lagos state Commissioner of Health for analysis, while the Nigeria NHREC (National Health Research Ethics Committee) course was completed by all co-investigators. Following this process, the study Clinical coordinator was employed 15th July. Since his resumption, he has assisted with the finalization and submission of the research protocol to the Health and research Ethics committee of the Lagos State university Teaching hospital for Ethical approval in August. The ethical approval from the IRB was obtained 3rd week in September Pilot is scheduled to commence in October.	NA	Study findings will be disseminated at the NTP annual review meeting; Union Conference

6. Key Challenges during Implementation and Actions to Overcome Them

Challenge	Actions to overcome challenges
Technical	
Inadequacy of Human Resources in the health service sector in some state and in particular Enugu state is hindering the smooth implementation of activities in the affected states. Similarly, there is constant re-posting of health care personnel and doctors leading to staff attrition.	CTB does not have the mandate to employ or deploy staff to MOH. So the project keeps advocating to the leadership at the State Ministry of Health (SMOH). In some places where the workload is heavy, CTB has supported with additional ad-hoc staff for laboratory services.
Lack of motivation of DOTS FPs and TBLS, due to non-payment of salaries for 4-6 months is a big challenge. In some states, there is staff attrition and lackluster attitudes.	CTB continues to encourage and where necessary, the trainings have been used to motivate staff.
There were stock-out of anti TB drugs, IPT and Pediatric TB drugs at facility levels during the reporting period.	Though CTB is not responsible for the buying and distribution of drugs, the stock-out was brought to the attention of the NTBLCP due to its effect on TB case notification. The NTBLCP through CTB/WHO facilitated the expert meeting Procurement and Supply Management (PSM) on 21st July 2016 to identify the key TB PSM challenges and proffer solutions. Key outcomes of the meeting include the resolution to urgently conduct a National level audit for stock of drugs at hand for 1st line and 2nd line drugs. This will help facilitate the timeline for the ordering the next batch of drugs and also to prevent stock-out. Steps for addressing the current delay in receiving custom waivers by the program were identified and it was also agreed that the program should key into the process for 2017 Customs waivers, through Food & Drugs/CCM/Finance
Administrative	
Delay in the approval of work plan	The delay in the approval of work plan makes it difficult for all to implement all project activities and meet stated targets.

7. Lessons Learnt/ Next Steps

Dependency on others

- The reliance on other partners to provide drugs and commodities has been limiting the ability to initiate or commence patients on treatment. The provision of first- and second-line anti-TB drugs is currently the sole responsibility of Global Fund Principal Recipients in-country. In the light of this, CTB has during the course of the year experienced delays in initiation of patients especially for second-line drugs. CTB will continue to provide technical assistance to the NTBLCP in drug quantification.

Perception of the CTB project/Partnerships

- While embedding CTB Program Officers in the offices of the State TB program has helped in facilitating understanding and implementation of programs, this embedding arrangement has also, paradoxically, handicapped the Program Officers from moving independently from the state program managers in case they were not disposed to move in the same direction. Similarly, there is hesitation to share data to partners through the directives provided by the NTBLCP. There is a need to alleviate these recurrent challenges.

Co-Implementation with GF

- The co-implementation of CTB with the GF project has presented unhealthy comparisons in compensation and financial incentives on many occasions. The State TB Teams learnt to play off any apparent differences in implementation of the GF project against CTB in order to push for higher incentives. They dragged their feet to implement CTB activities that looked to them like there was little financial benefit to them. Thus the CTB teams have had to make concerted efforts to constantly engage, explain and encourage a sense of ownership. CTB will continue to explore avenues to bring the state teams together to review progress and further seek their support in implementation.

Not a one-size-fits-all work plan

- There are key strategies implemented by CTB, which have produced results and there is need to review and strengthen such approaches for better performance. For instance, even though the facility-based training has reached more health care personnel with information, the frequency of interruptions makes it impossible for participants to concentrate during the training and in some instances they are absent for prolonged periods of time. There is need to re-visit the strategy. Other strategies such as the sputum transportation system need to be strengthened and CTB will continue to work on these areas.

Annex I: Year 2 Results on Mandatory Indicators as well as National Data on the Number of pre-/XDR-TB Cases Started on Bedaquiline or Delamanid

MANDATORY Indicators					
Please provide data for the following mandatory indicators:					
2.1.2 A current national TB laboratory operational plan exists and is used to prioritize, plan and implement interventions.	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Score as of September 30, 2016	1	N/A	**Substantial**	The NTBLCP in collaboration with partners intend to finalize the existing draft National laboratory operational plan developed under the TB CARE 1 project in the current fiscal year.	Provide relevant score in line with the indicator definition as presented in CTB M&E framework. Send a copy of current national TB laboratory operational plan to your PMU M&E Officer.
2.2.6 Number and percent of TB reference laboratories (national and intermediate) within the country implementing a TB-specific quality improvement program i.e. Laboratory Quality Management System	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**

Number and percent as of September 30, 2016	8 (100%)	N/A	**Substantial**	Total number of functional TB Reference labs in the Country as at during the reporting period is 8 (2 NRLs; 4 zonal and 2 TB reference lab, ie Bingham/Zankli and Calabar). All 8 reference labs are implementing LQMS, but at different levels. The plan to activate two additional zonal labs (Amachara in South East and FMC Yola, Adamawa State) has been concluded. For the 8 labs currently implementing: * NIMR; SLIPTA/SLMTA Score is 5 and 4 for ASLM 4 * ZARIA; SLIPTA Score is 1 * KANO; SLIPTA Baseline assessment conducted *UCH; GLI STEPWISE - Score is 1 *UNIPORT; GLI STEPWISE; Baseline assessment conducted *JUTH; GLI STEPWISE; Baseline assessment conducted *Calabar; SLIPTA/SLAMTA score is 2 *Bingham University is yet to be enrolled.	Under additional information, provide a score/rating for every reference laboratory implementing LQMS, either the "GLI Stepwise Process towards TB Laboratory Accreditation" (scoring = phase 1-4) or SLIPTA/SLMTA for TB (scoring=stars 1-5). (Reference: Laboratory Quality Management Systems Handbook; http://www.who.int/ihr/publications/lqms/en/)
2.2.7 Number of GLI-approved TB microscopy network standards met	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Number of standards met as of September 30, 2016	6 standards were completely met	N/A	**Substantial**	The NTBLCP in collaboration with the Implementing partners met a total of 5 standards (1, 2, 5, 6,7 and 11) completely. However, 50% of standard 3; 86% of standard 4; 84% of standard 5; 60% of standard 7 were met; while standards 9 and 10 were not met.	This indicator measures whether or not a country has assessed and met the 11 GLI-approved standards for the TB microscopy network. Please send the completed CTB checklist assessing the fulfillment

					of the requirements for each standard to your PMU M&E Officer. In the additional comments column, provide a list of the standards (number only) that are met.
2.3.1 Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded result.	**National 2015**	**CTB 2015**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Percent (new cases), include numerator/denominator	NA	NA	**Substantial**	The current routine reporting tool does not capture this indicator. However there are plans to begin capturing the data in 2017	This indicator measures the percentage of bacteriologically confirmed TB cases that are tested for drug resistance and also have results recorded in the TB register (disaggregated by new and previously treated cases). Please note that drug resistance testing includes phenotypic (culture DST) and genotypic (molecular DST by GeneXpert, LPA or other molecular technologies).
Percent (previously treated cases), include numerator/denominator	NA	NA			
Percent (total cases), include numerator/denominator	NA	NA			
3.1.1. Number and percent of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach	**National APA2**	**CTB APA2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**

Number and percent	*Fill in data in "Ind 3.1.1 - APA 2" worksheet*	*Updated in Ind 3.1.1 - APA 2" worksheet*	**Substantial**	See Sheet 3	Please completed the separate worksheet "Ind.3.1.1 - APA2"
3.1.4. Number of RR-TB or MDR-TB cases notified	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Total 2015	1279	317	**Substantial**	CTB data reported in 2015 is only for 2 quarters (July-December). This signifies the period when the project commenced. The July - Sept 2016 data is not yet available	Number of laboratory-confirmed cases of rifampicin-resistant TB (RR-TB) or multidrug-resistant TB (MDR-TB) identified among all TB patients (pulmonary or extrapulmonary; new, previously treated or unknown treatment history).
Jan-Mar 2016	349	178			
Apr-June 2016	369	245			
Jul-Sept 2016	U	U			
To date in 2016	718	423			
3.2.1. Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums, etc.).	**National 2014 cohort**	**CTB 2014 cohort**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Number and percent of TB cases successfully treated in a calendar year cohort	Getting from WHO	11,643 (85.6%)	**Substantial**	Data reported here for CTB is for 2 quarters (July-Dec). Total cases registered was 13,590 of which 6,443 were cured and 5,200 completed treatment. Thus a total of 11,643 were successfully treated.	Under additional information (Column E), give disaggregated data by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (gender, children, miners, urban slums, etc.) and/or risk population groups defined by national policy (IDUs, diabetics, prisoners, etc.). There

					may be overlap between settings and groups. Disaggregation by risk population is required in contexts where Challenge TB is providing treatment support for a specific group according to the annual work plan or in contexts where operations research allows for disaggregation and comparison across groups.
3.2.4. Number of patients started on MDR-TB treatment	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Total 2015	656	202	**Substantial**	CTB data reported in 2015 is only for 2 quarters (July-December). This signifies the period when the project commenced. The July - Sept 2016 data is not yet available	The number of bacteriologically confirmed, clinically diagnosed or unconfirmed MDR-TB cases started on second-line treatment during the reporting period. Unconfirmed MDR-TB cases are those awaiting C/DST results. RR-TB may fall under confirmed or unconfirmed depending on the country's MDR-TB diagnosis algorithm.
Jan-Mar 2016	265	104			
Apr-June 2016	304	150			
Jul-Sept 2016	U	U			
To date in 2016	569	254			
3.2.7. Number and percent of MDR-TB cases successfully treated	**National 2013 cohort**	**CTB 2013 cohort**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Number and percent of MDR-TB cases successfully treated in a calendar year cohort	Getting from WHO	NA	**Substantial**	For the NTP, 76.4% were successfully treated. Of these, 52.8% were cured. CTB had not enrolled any patient in 2013 and besides the	The proportion of confirmed MDR-TB patients successfully treated (cured plus completed treatment)

				cohort is not available by state because some patients move to other states to access treatment.	among those enrolled on second-line TB treatment during the calendar year. Under additional information (Column E), as applicable, give disaggregated data by HIV status, and XDR status. RR-TB may fall under confirmed MDR-TB depending on the country's MDR-TB diagnosis algorithm.
5.2.3. Number and % of health care workers diagnosed with TB during reporting period	**National 2015**	**CTB 2015**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Number and percent reported annually	80	54 (19.7%)	**Limited**	According to NTP, the data for the indicator may have been double counted due to repeat tests by the Health care personnel at other facilities. Data for CTB is for 2 quarters (July- Dec 2015). This covers the period when the project commenced. Total HCW tested by GeneXpert is 274. About 54 were MTB positive, of which 6 were Rif+ cases	This indicator measures the percent of healthcare workers (HCWs) diagnosed with TB (all forms) annually (disaggregated by gender and age). This measurement may require a special study using a validated tool and/or methodology.
6.1.11. Number of children under the age of 5 years who initiate IPT	**National 2015**	**CTB 2015**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Number reported annually	6,254/7,380 (85%) among eligible children	1130 (97%)	**Limited**	The data reported here is for CTB 12 states (1130/1169). CTB data reported in 2015 is only for 2 quarters (July-December). This signifies the period when the project commenced	The number of children under the age of 5 years who initiate isoniazid preventive therapy (IPT) during the reporting period.

7.2.3. % of activity budget covered by private sector cost share, by specific activity	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments	Notes
Percent as of September 30, 2016 (include numerator/denominator)	N/A	NA	**None**		This indicator measures the proportion of CTB project activity budget covered by private sector cost share (if not monetary, will require estimation of costs) by specific activity.
8.1.3. Status of National Stop TB Partnerships	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Score as of September 30, 2016	2	N/A	**Limited**		Provide relevant score in line with the indicator definition as presented in CTB M&E framework. Please send a completed CTB questionnaire assessing the status of National Stop TB Partnership to your PMU M&E Officer.
8.1.4. % of local partners' operating budget covered by diverse non-USG funding sources	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Percent as of September 30, 2016 (include numerator/denominator)	N/A	29.10%	**Limited**	Data reported here is for Riders for Health. The partner was engaged by CTB to assist with Sputum transportation under the PEPFAR grant	This indicator measures the proportion of CTB project local partners' operating budgets covered by non-USG funding sources. Please send copies of completed special questionnaires with collected relevant country level data among CTB local partners to your PMU M&E Officer.

8.2.1. Global Fund grant rating	National APA 2	CTB APA 2	CTB APA 2 investment	Additional Information/Comments	Notes
Score as of September 30, 2016	B1 for ARFH and A2 (IHVN)	N/A	**None**		Provide the score for every active TB grant in country based on the following: A1 Exceeds expectations A Good performance A2 Meets expectations B1 Adequate B2 Inadequate but potential demonstrated C Unacceptable
9.1.1. Number of stock outs of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Number as of September 30, 2016	NA	NA	**None**	NA for National and CTB states. We have no investment and we have no means to report this routinely both at National and CTB level	This indicator should be used to report the number of stock-outs of any type of TB drug at any level of the health system that results in interruption of treatment.
10.1.4. Status of electronic recording and reporting system	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Score as of September 30, 2016	2	N/A	**Substantial**	At the moment there patients based ERR for DR-TB at National and sub national levels across the country. However for DS TB, the patient based ERR has only been piloted in 4 states. The roll out plan is available for the remaining 33 states and is planned for November 2016	Provide relevant score in line with the indicator definition as presented in CTB M&E framework.

10.2.1. Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Yes or No as of September 30, 2016	No	N/A	**None**	There was no assessment during the reporting period. The last assessment took place in 2012 by WHO and since then there has been a lot of revision and updates to data collection tools and the M&E surveillance system.	If assessed, please share a copy of the report/document assessing the status of relevant standards and benchmarks with your PMUE M&E Officer. In the additional comments column, include the country standards and benchmarks score (and year of completion) if an assessment was done.
10.2.6. % of operations research project funding provided to local partner (provide % for each OR project)	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Percent as of September 30, 2016 (include numerator/denominator)	N/A	0%		The OR project is about commencing. No funds have been disbursed	This indicator measures the proportion of **Challenge TB-supported** operations research project funding provided to local partner(s), by each OR project.
10.2.7. Operational research findings are used to change policy or practices (ex, change guidelines or implementation approach)	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**

Yes or No as of September 30, 2016	N/A	NA	**Limited**	At the moment the APA 2 grant has just commenced and the research activity has just commenced. The expression of interest was disseminated and the research body (academic institution) has been identified. The contract is being developed	Under additional information (Column E), please present relevant information for each individual project. Please send relevant special reports with qualitative details to your PMU M&E Officer.
11.1.3. Number of health care workers trained, by gender and technical area	**CTB APA 2**		**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
			Substantial	72% of the target for training was met during the reporting period. Even though a target of 2360 was set in the annual report. Some activities were later re-programmed.	Please note that healthcare workers includes health facility staff, community health volunteers, laboratory staff, sputum transport technicians, and community-based DOTS workers. Below, please give disaggregated data by gender and sub-objective. Training includes any in-person, virtual, or on-the-job training that is longer than half a day and for which curriculum is available. This indicator is interchangeable with 'Number of individuals trained in any component of the WHO Stop/End TB Strategy with USG funding', which USAID missions may have as a requirement for internal agency reporting.
	# trained males APA 2	**# trained females APA 2**	**Total # trained in APA 2**	**Total # planned trainees in APA 2**	
1. Enabling environment					
2. Comprehensive, high quality diagnostics	**256**	**192**	**448**	**542**	
3. Patient-centered care and treatment	**257**	**339**	**596**	**635**	
4. Targeted screening for active TB					
5. Infection control	**39**	**29**	**68**	**215**	
6. Management of latent TB infection			**0**		
7. Political commitment and leadership	**0**	**0**	**0**	**151**	

8. Comprehensive partnerships and informed community involvement			**0**		
9. Drug and commodity management systems			**0**		
10. Quality data, surveillance and M&E			**0**		
11. Human resource development			**0**		
Other (explain)			**0**		
Other (explain)			**0**		
Grand Total	**552**	**560**	**1,112**	**1,543**	

11.1.5. % of USAID TB funding directed to local partners	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Percent as of September 30, 2016 (include numerator/denominator)	N/A	$288,546/ $554,435 (52%) $288,546/ $9,411,113 (3.1%)	**Moderate**	The data reported is for money made available to Riders for Health from the PEPFAR grant. The data below is proportion obtained from both PEPFAR and GH money	This indicator measures the proportion of CTB annual funding directed to local partners.

Year/Quarter	**Number of pre-/XDR-TB cases started on BDQ nationwide**	**Number of pre-/XDR-TB cases started on DLM nationwide**	**CTB APA 2 investment**	**Additional Information/Comments**	**Notes**
Total 2014	0	0	**Moderate**	The country is in the process of commencing the implementation of Bedaquiline. Through external Technical Assistance provided by Challenge TB, the road map for the takeoff of the implementation of bedaquiline	The number of pre-XDR and XDR-TB patients started on Bedaquiline/Delamanid during the reporting period as a part of the patient's treatment regimen.
Total 2015	0	0			
Jan-Mar 2016	0	0			
Apr-Jun 2016	0	0			
Jul-Aug 2016	0	0			
To date in 2016	0	0			

				was developed.	

Number and percent of cases notified by setting (i.e. private sector, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach (CI/ACF/ICF) (3.1.1)							
		Reporting period					CTB APA 2 investment
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Jul-Sept 2016	Cumulative Year 2	
Overall CTB geographic areas	TB cases (all forms) notified per CTB geographic area *(List each CTB area below - i.e. Province name)*						The Challenge TB project is supporting the NTBLCP in 12 states of the 36 states and FCT. 4th quarter data is still undergoing validation at the NTP
	Akwa Ibom	602	717	690	705	2714	
	Bauchi	735	833	827	802	3197	
	Benue	1,028	1,210	1,172	1228	4638	
	Cross Rivers	385	472	473	491	1821	
	Enugu	374	428	430	401	1633	
	Lagos	1,466	2,314	2203	2145	8876	
	Niger	707	451	448	401	1692	
	Kano	2,214	1,740	1,931	1846	6983	
	Katsina	392	833	817	744	3101	
	Ondo	487	489	346	487	1809	
	Osun	604	671	692	671	2638	
	Rivers	611	649	644	617	2521	
	TB cases (all forms) notified for all CTB areas	9,605	10,807	10,673	10,538	41,623	
	All TB cases (all forms) notified nationwide (denominator)	23,362	25,990	24,243		73,595	
	% of national cases notified in CTB geographic areas	41%	42%	44%		42%	
Intervention							

(setting/population/approach)							
Children (0-14)	CTB geographic focus for this intervention	12 states					The Challenge TB project is supporting the NTBLCP in 12 states of the 36 states and FCT. Data reported here is for 3 quarters of the reporting period.
	TB cases (all forms) notified from this intervention	574	597	637		1,808	
	All TB cases notified in this CTB area (denominator)	9,606	10,807	10,673		31,086	
	% of cases notified from this intervention	6%	6%	6%		6%	
Reported by private providers (i.e. non-governmental facilities)	CTB geographic focus for this intervention	12 states					
	TB cases (all forms) notified from this intervention	1,204	755	832		2,791	
	All TB cases notified in this CTB area (denominator)	9,606	10,807	10,673		31,086	
	% of cases notified from this intervention	13%	7%	8%		9%	
Reported by prisons	CTB geographic focus for this intervention	12 states				0	
	TB cases (all forms) notified from this intervention	43	43	39		125	
	All TB cases notified in this CTB area (denominator)	9,606	10,807	10,673		31,086	
	% of cases notified from this intervention	0.4%	0.4%	0.4%		0.4%	

Annex II: Status of EMMP activities

Year 2 Mitigation Measures	Status of Mitigation Measures	Outstanding issues to address in Year 3	Additional Remarks
The microscopes, cartridges and other laboratory supplies will be stored safely in the USAID central store to ensure the recommended storage temperature for the Xpert MTB/RIF cartridges of 2-28°C is observed.	Since the fire outbreak that occurred at the at the USAID ware-house, all GeneXpert machines procured have been delivered to the CTB Country Office and stored at the recommended temperature though briefly before immediate distribution to the states. Addition-ally, during the reporting period CTB procured small quantity of cartridges **(2,500)** as a stopgap measure to forestall stock-out. This was also distributed immediately to the states		
Integrating biosafety and waste management into health care workers training • Procurement of biohazard bags for all laboratories under Challenge TB sites • Procurement of small locally made incinerators • Linking laboratory waste management in facilities to the general waste management system of the hospital	CTB during the reported period procured a total of **19,500** bio-safety bags and distributed a total of **17,434** of these bags to the different facilities in the 12 CTB supported states. The initial plan of procurement of small locally made incinerators was later disapproved by the mission thus the money was re-programmed. During trainings for laboratory health personnel the participants are trained on laboratory waste management and other safety precautions.	Given the scale up of activities to additional 2 states, CTB will procure more bio-safety bags in the year 3 plan and ensure that the capacity of the laboratory personnel are built on waste management during trainings.	

Annexes III: CTB Charts

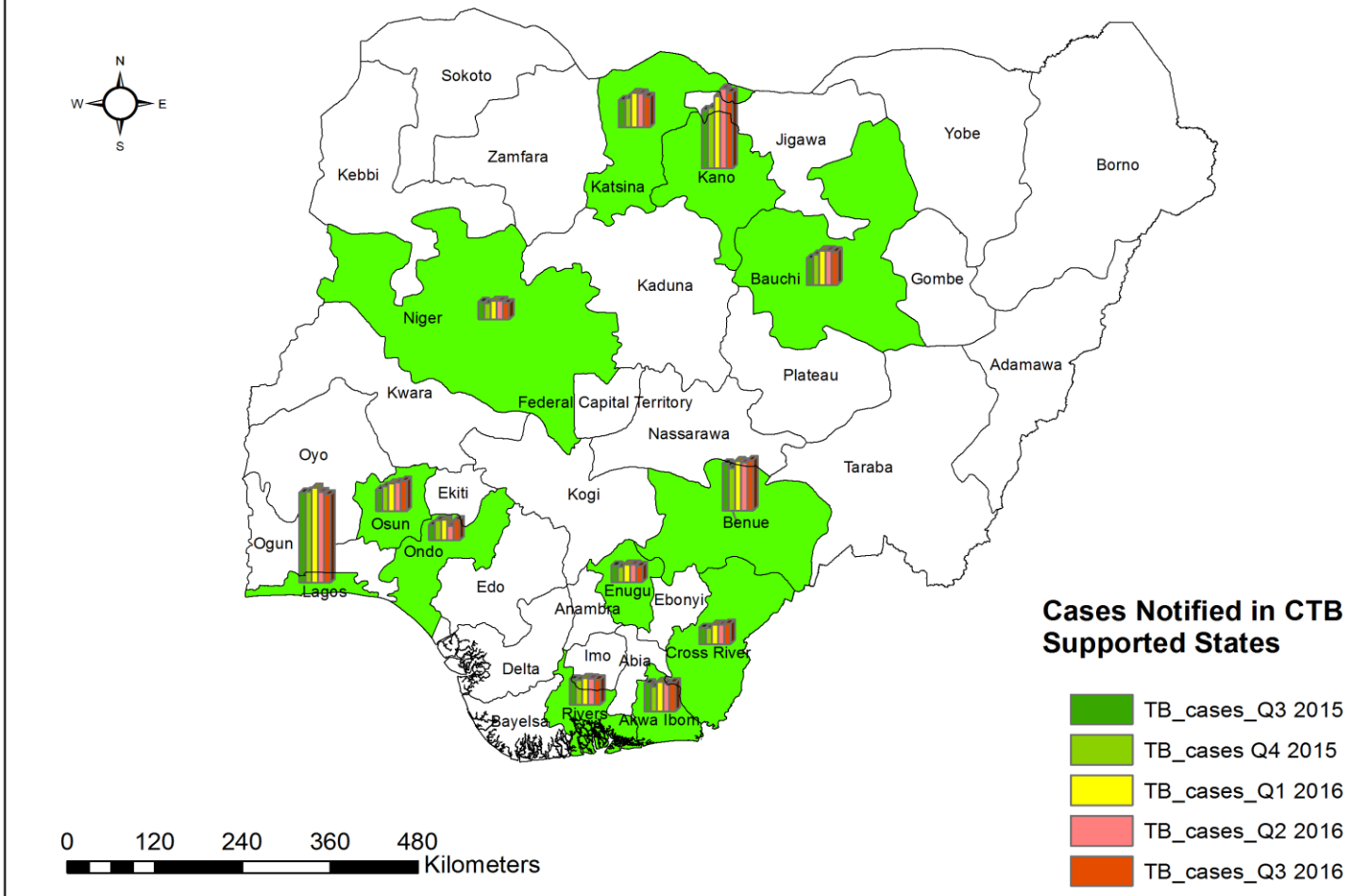
Challenge TB - Nigeria

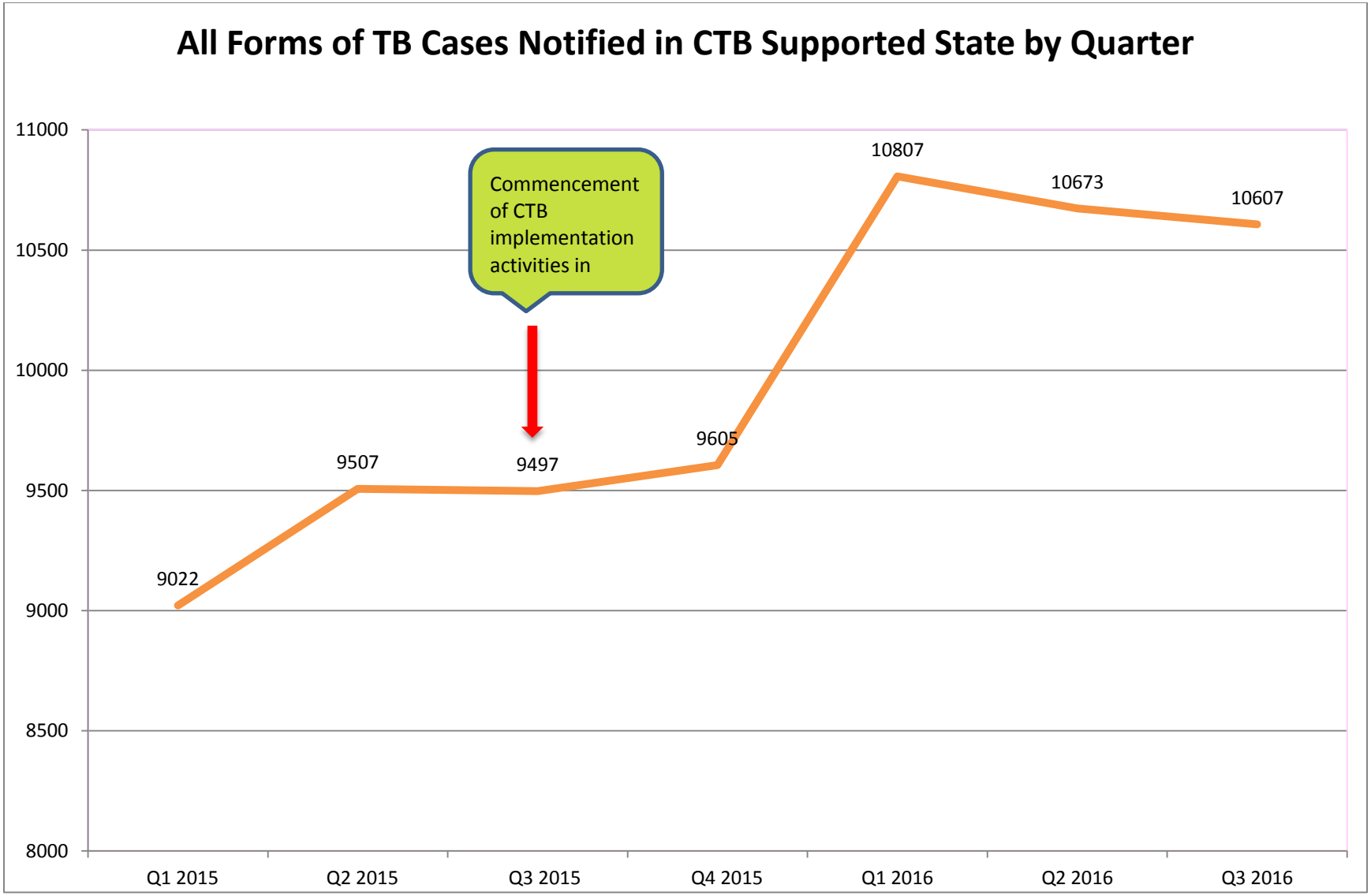
Charts for 12 CTB Supported states

FY 2016

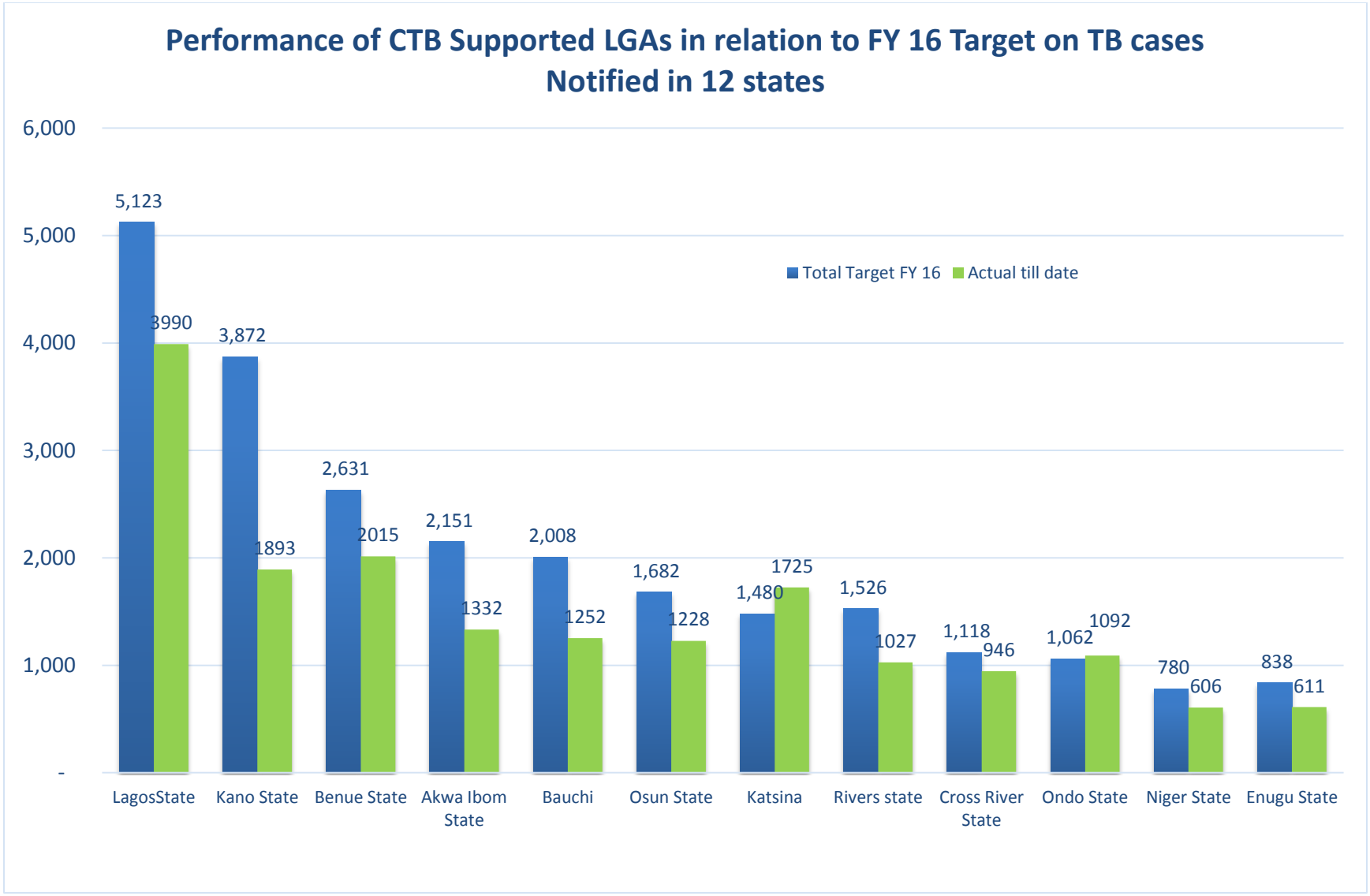
Data Presentation for 12 CTB Supported

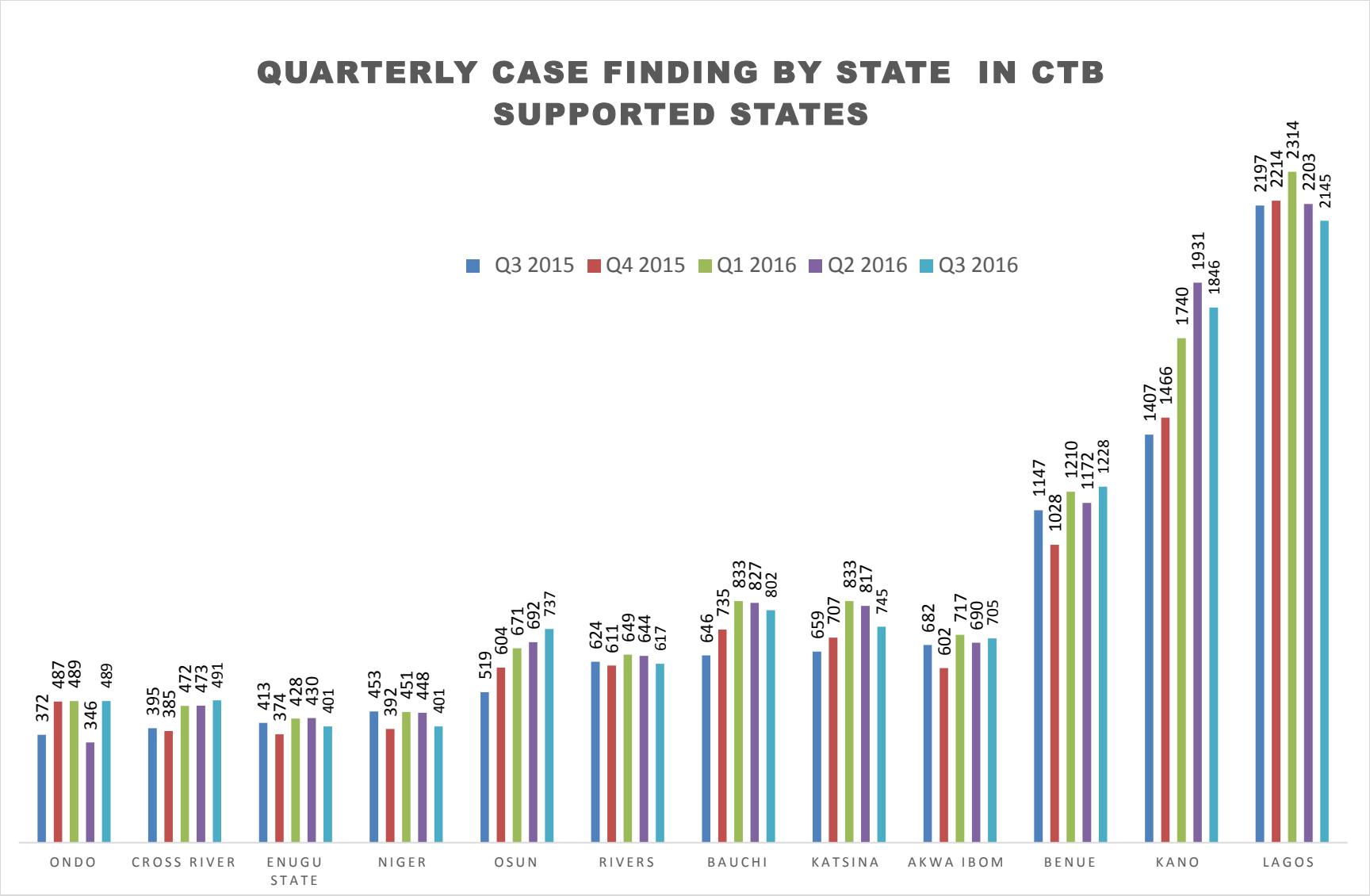
Map Showing Cases Notified in CTB Supported States

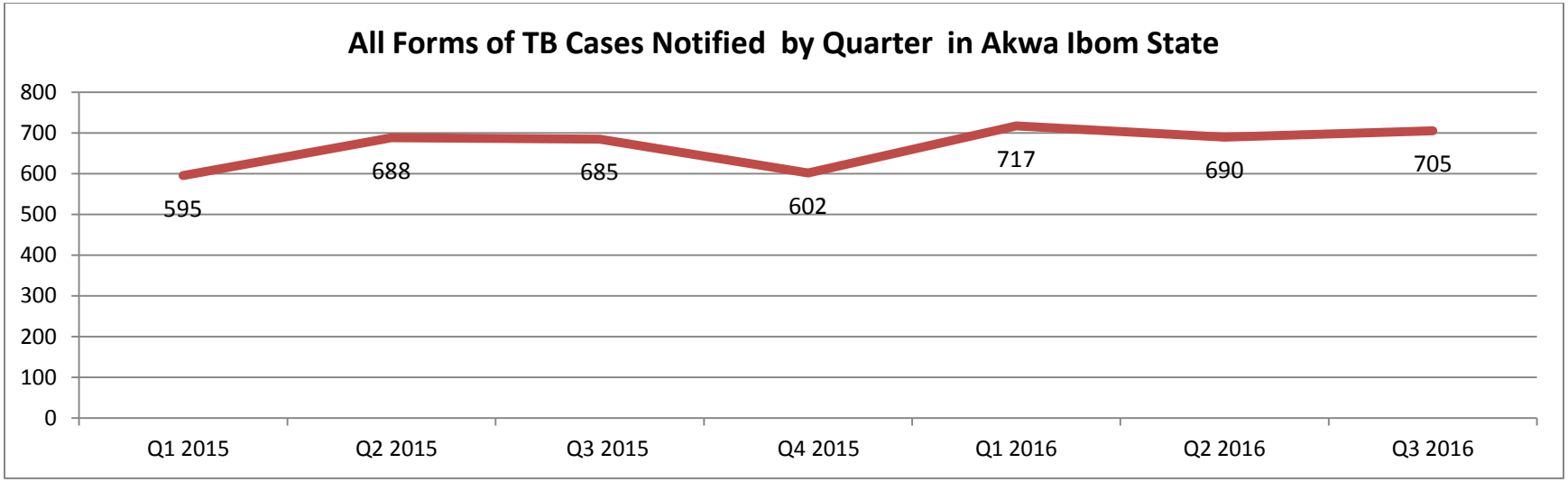


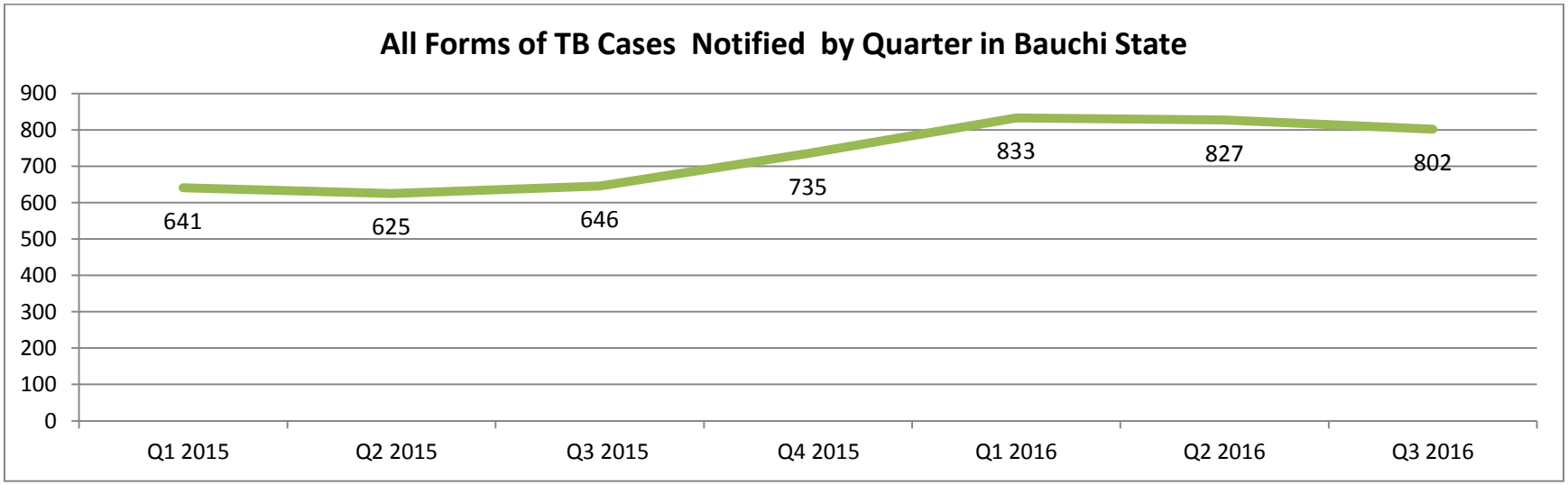

All Forms of TB Cases Notified in CTB Supported State by Quarter
11000
10500
10000
9500
9000
8500
8000
Commencement of CTB implementation activities in
9022
9507
9497
9605
10807
10673
10607
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

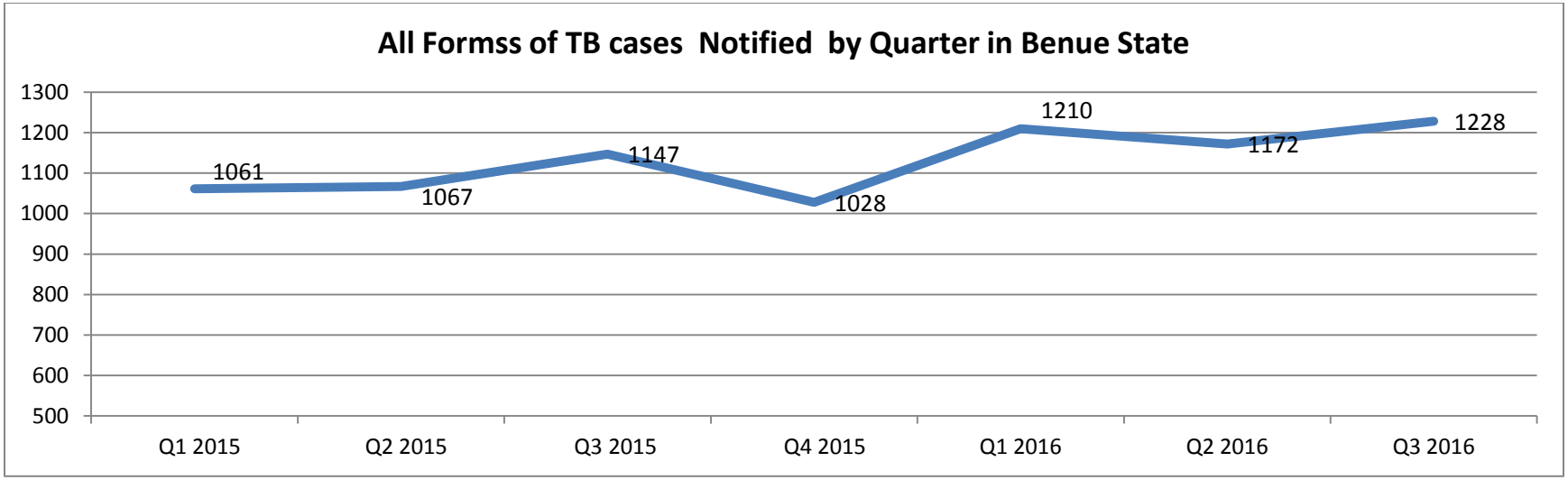
States	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Total till Date
Akwa Ibom	602	717	690	705	2714
Bauchi	735	833	827	802	3197
Benue	1028	1210	1172	1228	4638
Cross Rivers	385	472	473	491	1821
Enugu	374	428	430	401	1633
Kano	1466	1740	1931	1846	6983
Katsina	707	833	817	745	3102
Lagos	2214	2314	2203	2145	8876
Niger	392	451	448	401	1692
Ondo	487	489	346	489	1811
Osun	604	671	692	737	2704
Rivers	611	649	644	617	2521
Total	**9605**	**10807**	**10673**	**10607**	**41692**

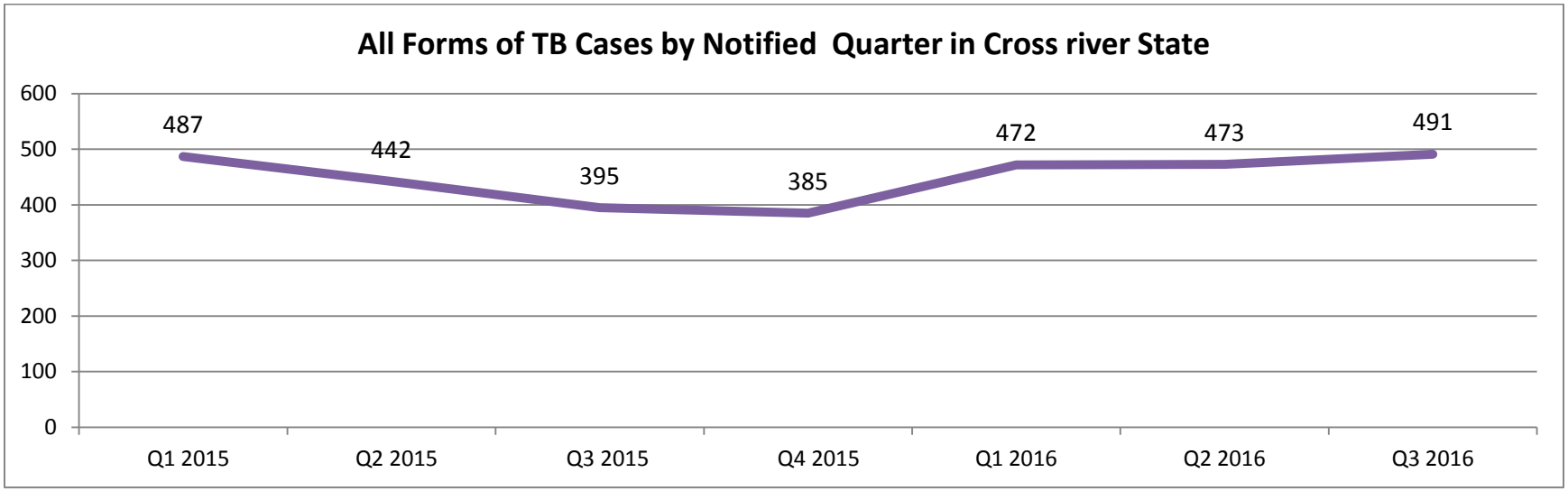

Performance of CTB Supported LGAs in relation to FY 16 Target on TB cases Notified in 12 states
6,000
5,000
4,000
3,000
2,000
1,000
-
Total Target FY 16
Actual till date
5,123
3990
3,872
1893
2,631
2015
2,151
1332
2,008
1252
1,682
1228
1,480
1725
1,526
1027
1,118
946
1,062
1092
780
606
838
611
LagosState
Kano State
Benue State
Akwa Ibom State
Bauchi
Osun State
Katsina
Rivers state
Cross River State
Ondo State
Niger State
Enugu State

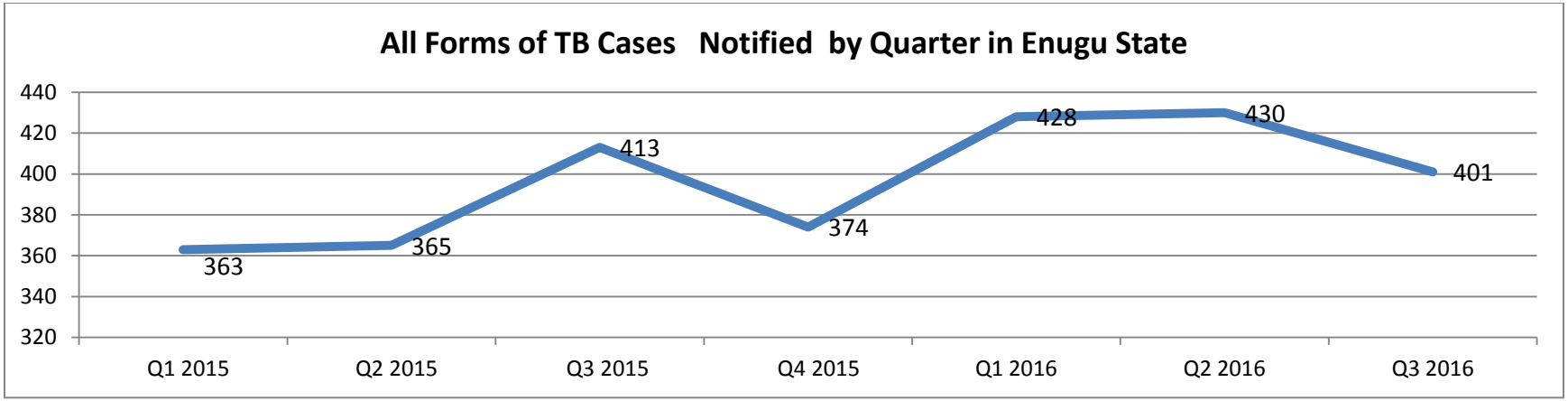

QUARTERLY CASE FINDING BY STATE IN CTB SUPPORTED STATES
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016
ONDO
372
487
489
346
489
CROSS RIVER
395
385
472
473
491
ENUGU STATE
413
374
428
430
401
NIGER
453
392
451
448
401
OSUN
519
604
671
692
737
RIVERS
624
611
649
644
617
BAUCHI
646
735
833
827
802
KATSINA
659
707
833
817
745
AKWA IBOM
682
602
717
690
705
BENUE
1147
1028
1210
1172
1228
KANO
1407
1466
1740
1931
1846
LAGOS
2197
2214
2314
2203
2145

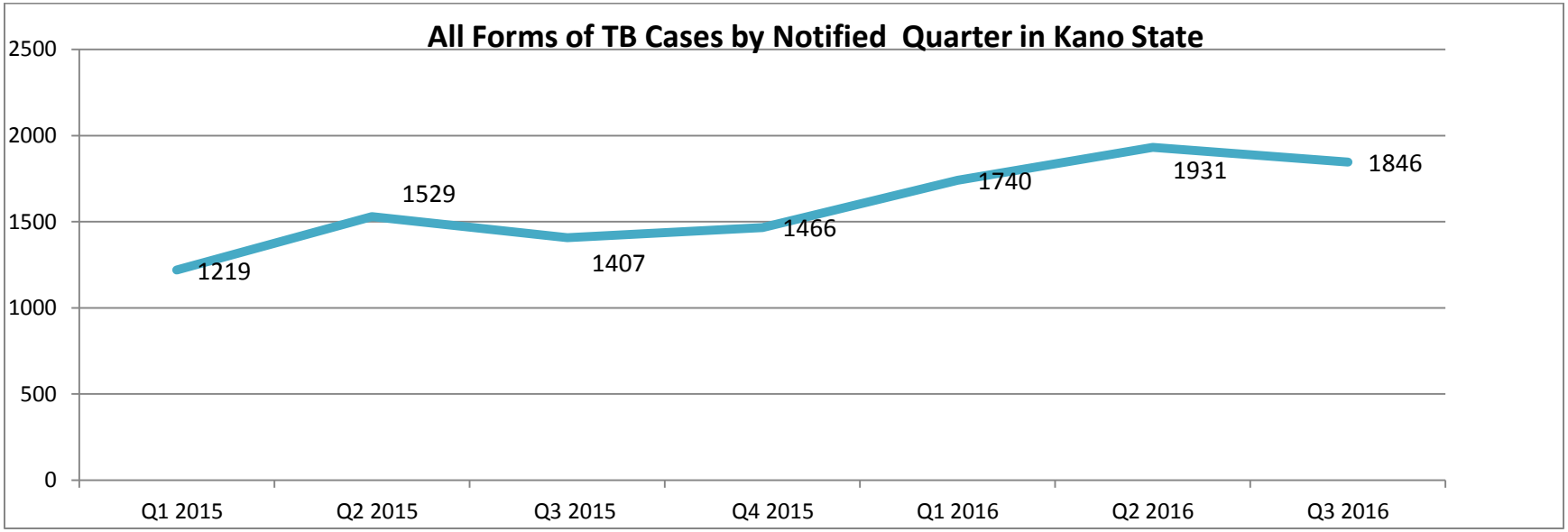

All Forms of TB Cases Notified by Quarter in Akwa Ibom State
800
700
600
500
400
300
200
100
0
595
688
685
602
717
690
705
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

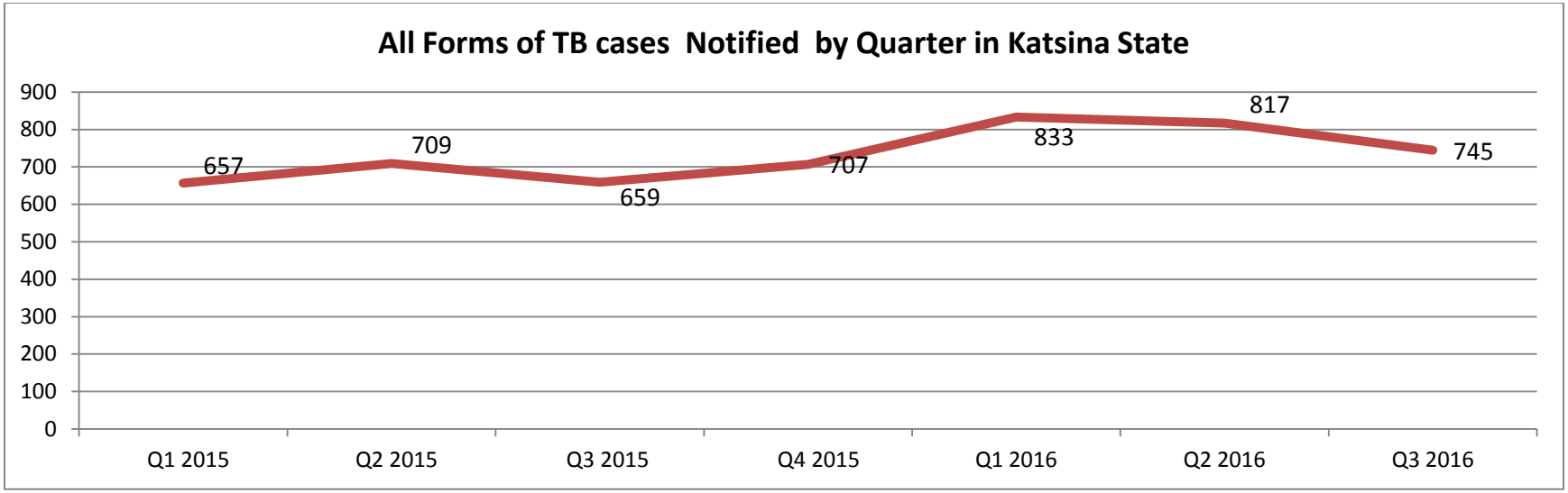

All Forms of TB Cases Notified by Quarter in Bauchi State
900
800
700
600
500
400
300
200
100
0
641
625
646
735
833
827
802
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

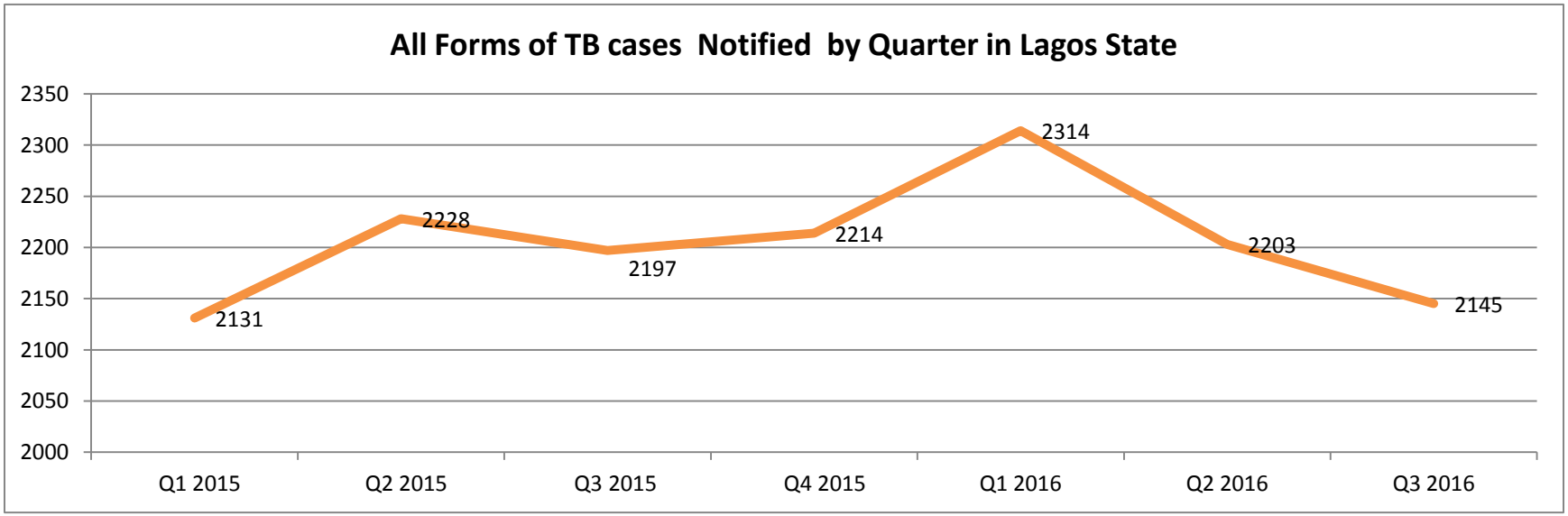

All Formss of TB cases Notified by Quarter in Benue State
1300
1200
1100
1000
900
800
700
600
500
1061
1067
1147
1028
1210
1172
1228
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

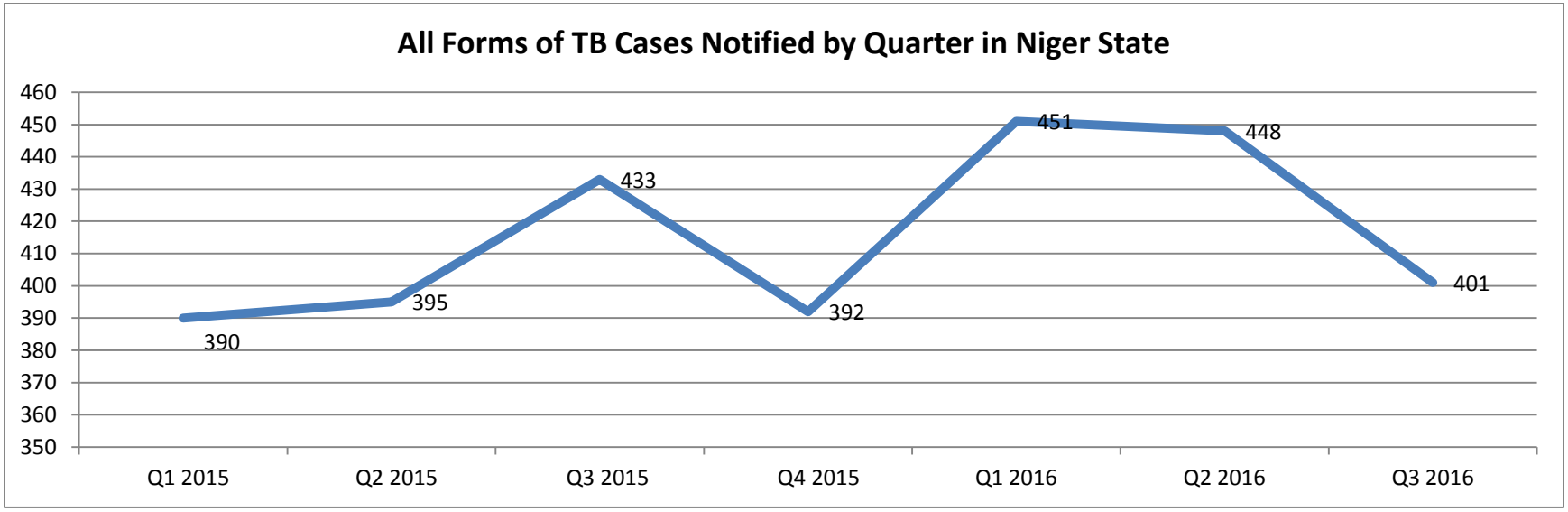

All Forms of TB Cases by Notified Quarter in Cross river State
600
500
400
300
200
100
0
487
442
395
385
472
473
491
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

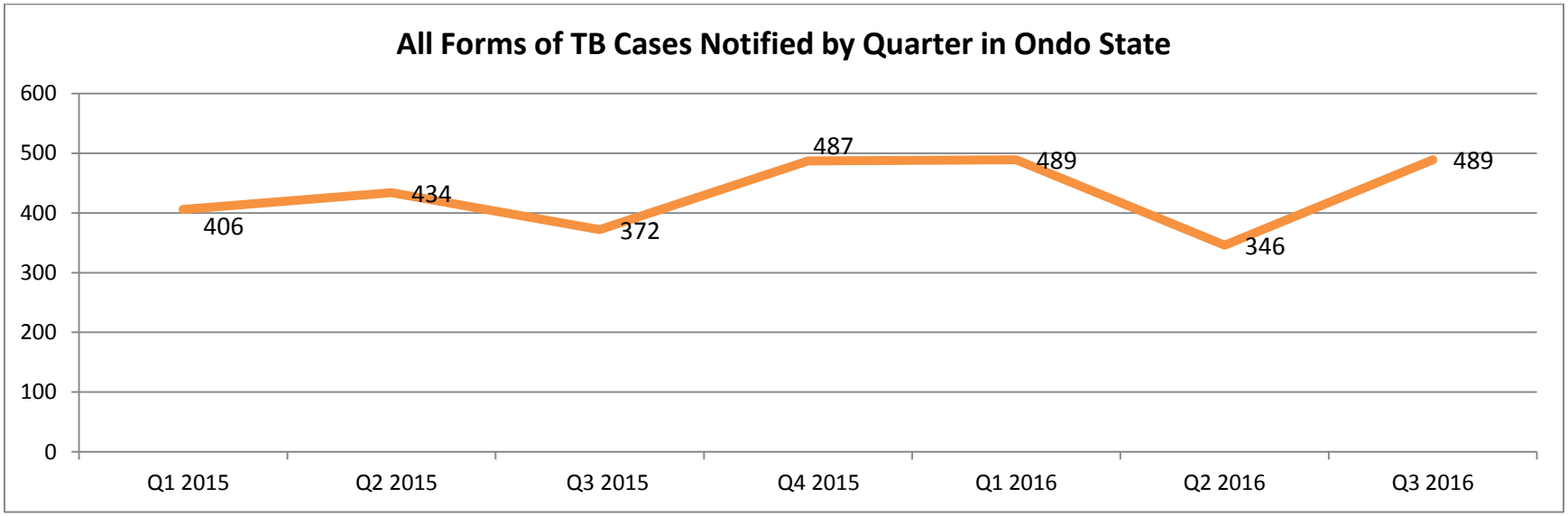

All Forms of TB Cases Notified by Quarter in Enugu State
440
420
400
380
360
340
320
363
365
413
374
428
430
401
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

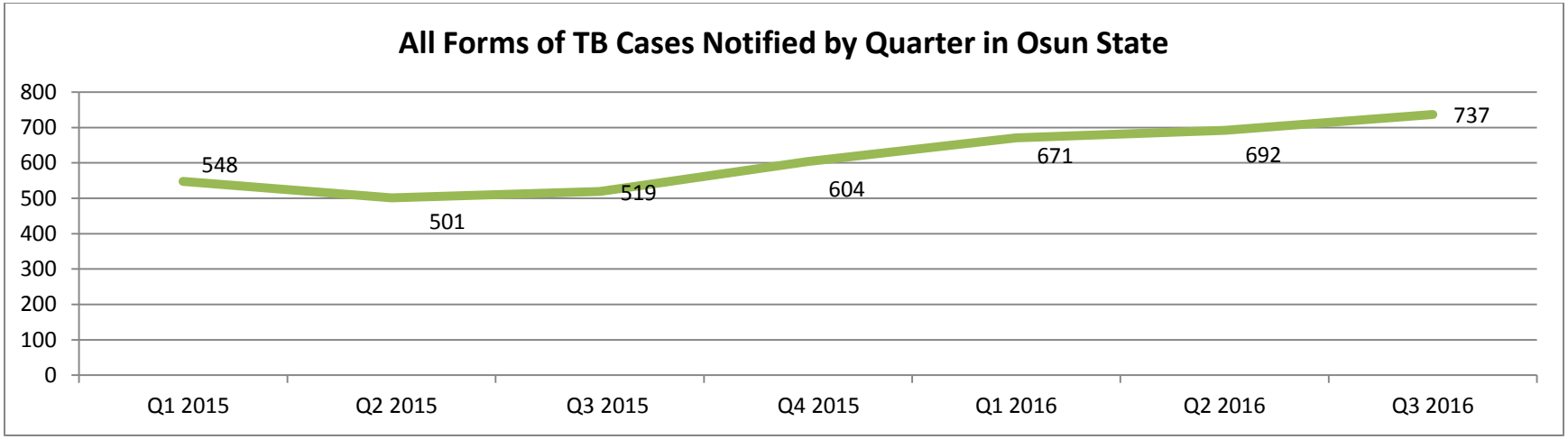

All Forms of TB Cases by Notified Quarter in Kano State
2500
2000
1500
1000
500
0
1219
1529
1407
1466
1740
1931
1846
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

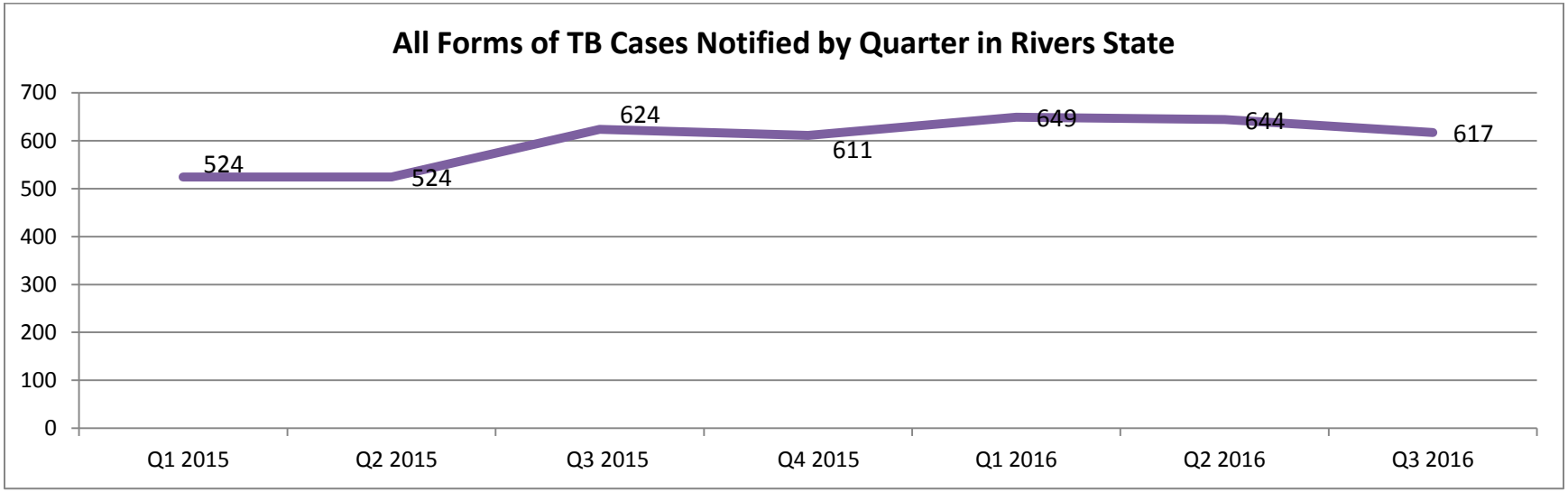

All Forms of TB cases Notified by Quarter in Katsina State
900
800
700
600
500
400
300
200
100
0
657
709
659
707
833
817
745
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

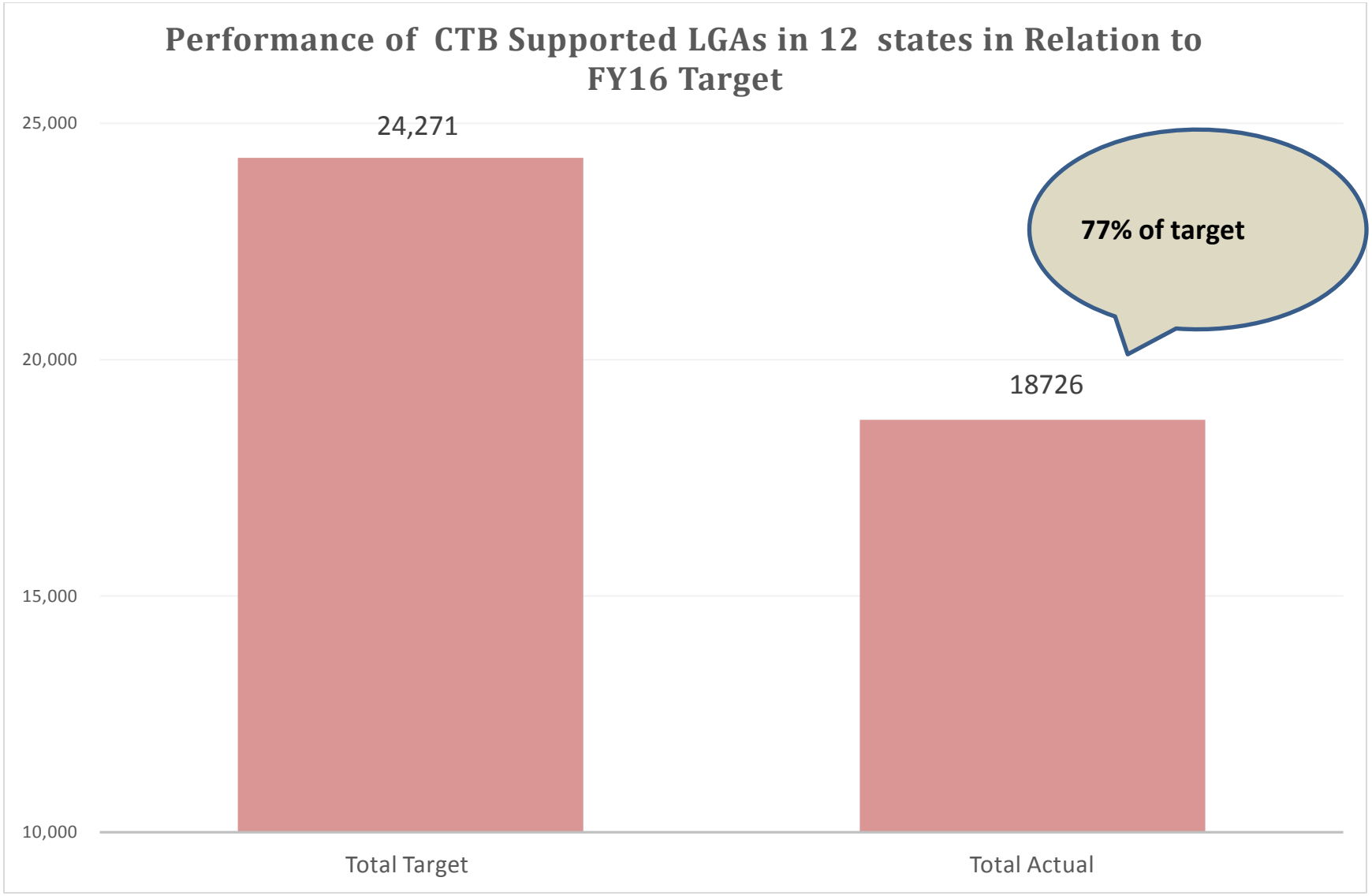

All Forms of TB cases Notified by Quarter in Lagos State
2350
2300
2250
2200
2150
2100
2050
2000
2131
2228
2197
2214
2314
2203
2145
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016


All Forms of TB Cases Notified by Quarter in Niger State
460
450
440
430
420
410
400
390
380
370
360
350
390
395
433
392
451
448
401
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016


All Forms of TB Cases Notified by Quarter in Ondo State
600
500
400
300
200
100
0
406
434
372
487
489
346
489
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

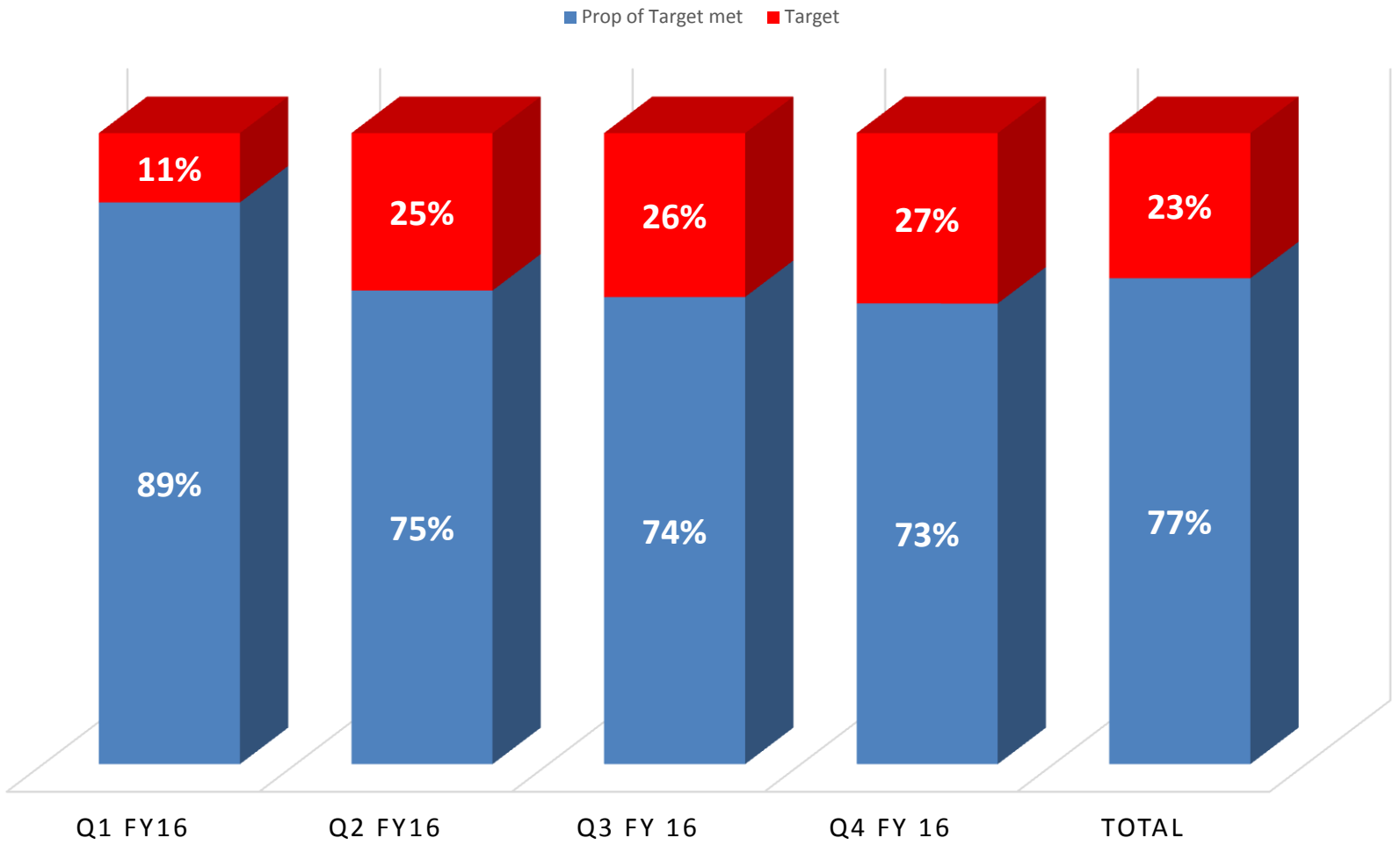

All Forms of TB Cases Notified by Quarter in Osun State
800
700
600
500
400
300
200
100
0
548
501
519
604
671
692
737
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

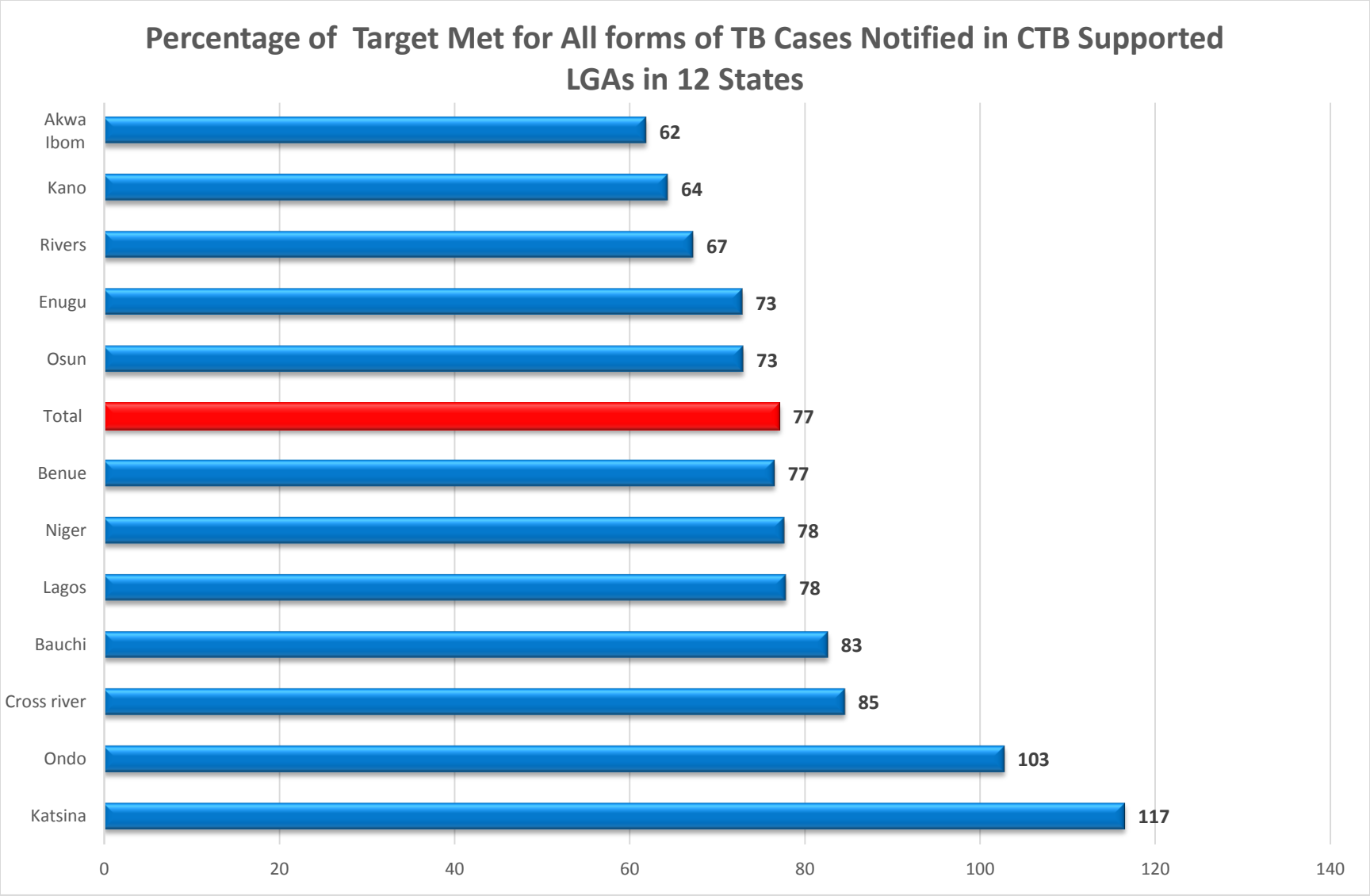

All Forms of TB Cases Notified by Quarter in Rivers State
700
600
500
400
300
200
100
0
524
524
624
611
649
644
617
Q1 2015
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016

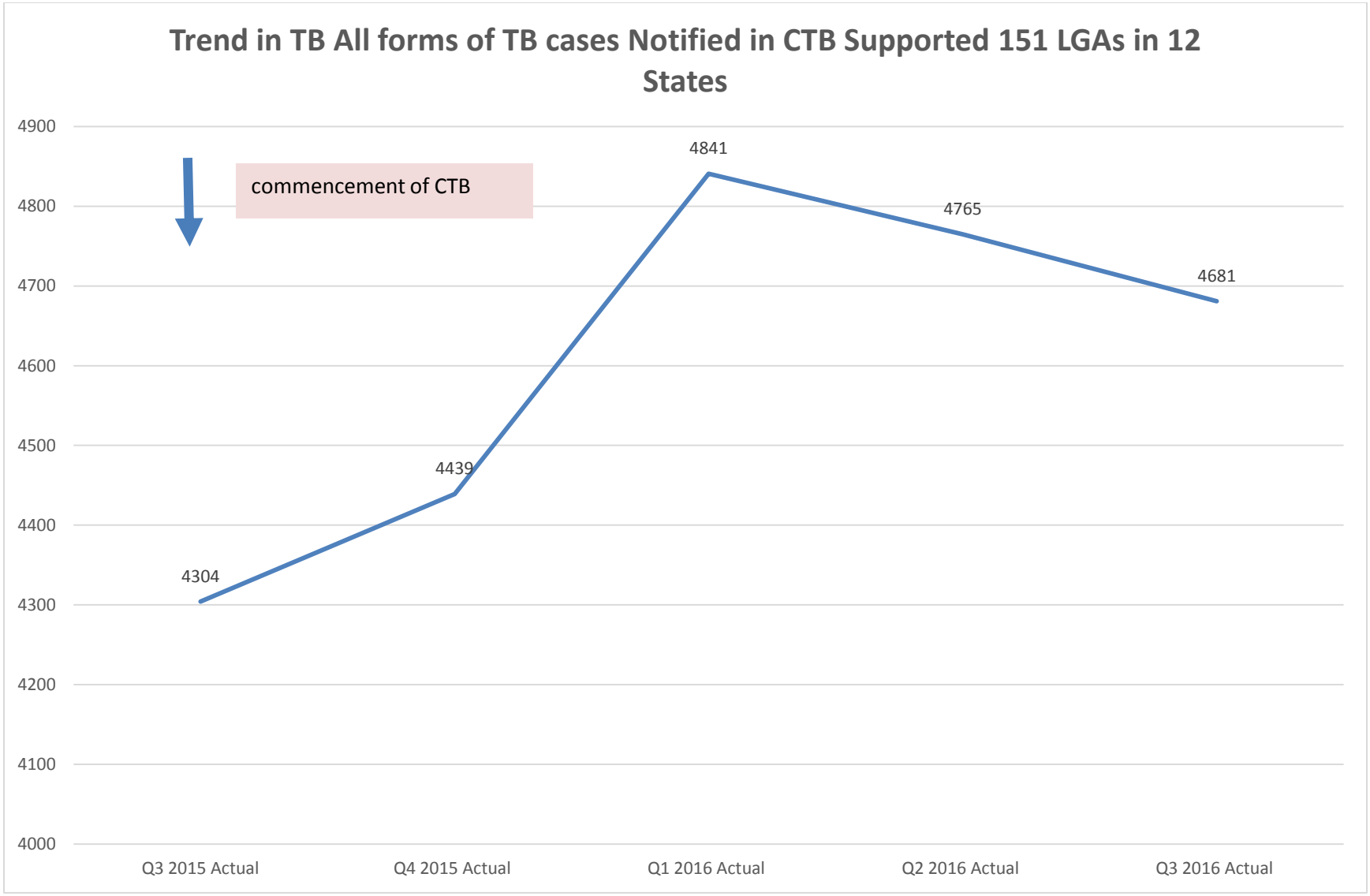

Performance of CTB Supported LGAs in 12 states in Relation to FY16 Target
25,000
20,000
15,000
10,000
24,271
18726
77% of target
Total Target
Total Actual

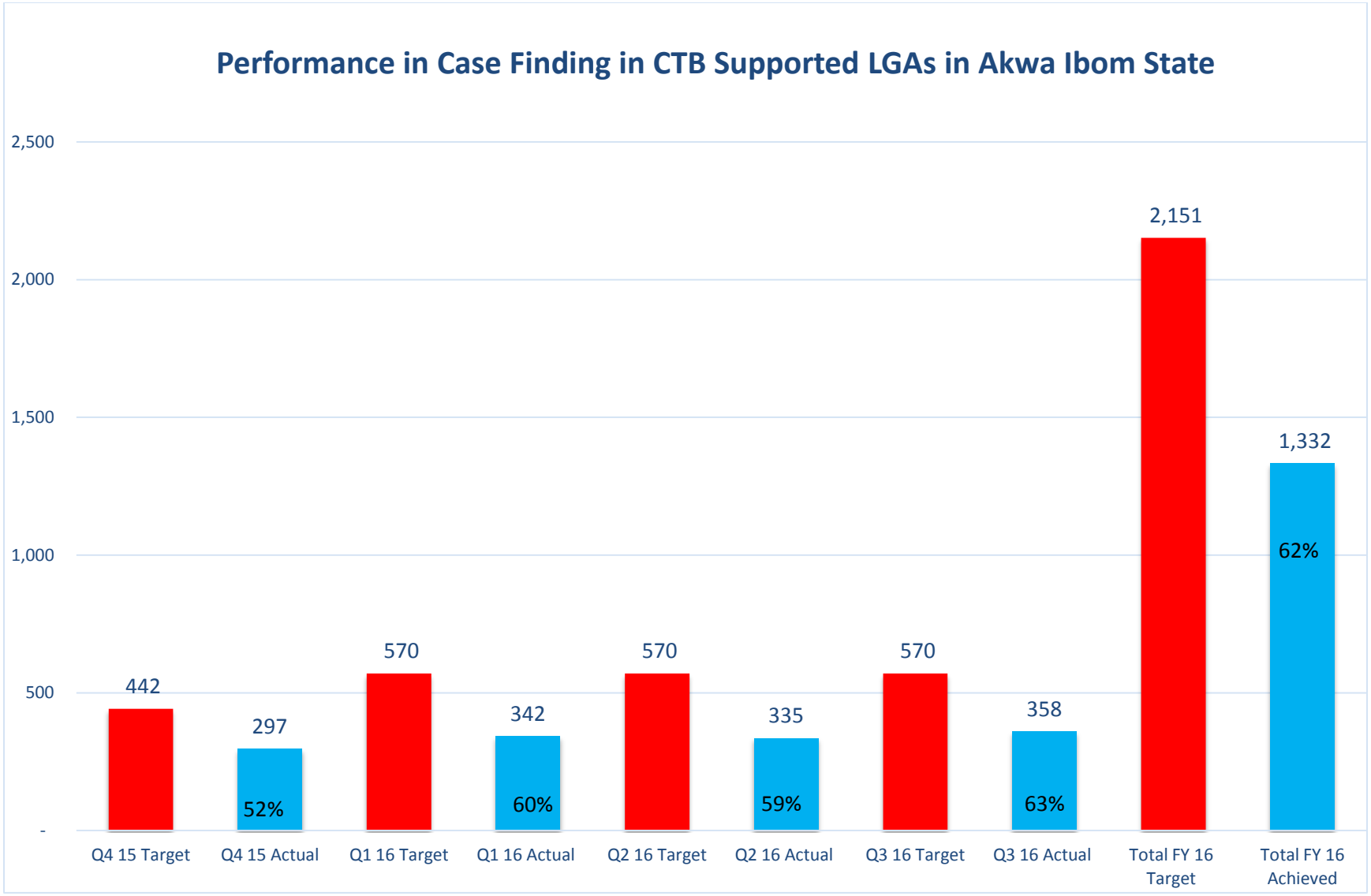
	All States	Population in 2016	FY 16 Target in APA 2 Plan # of cases	Cases Notified Q1 FY 16	Cases Notified Q2 FY 16	Cases Notified Q3 FY 16	Cases Notified Q4 FY 16	FY 16 Total Till Date
1	Akwa Ibom	2,748,144	2,151	297	342	335	358	1332
2	Bauchi	3,172,713	2,008	382	434	436	408	1660
3	Benue	3,108,881	2,631	461	520	512	522	2015
4	Cross River	2,403,571	1118	177	240	268	261	946
5	Enugu	2,145,338	838	131	151	163	166	611
6	Kano	6,495,586	3,872	601	639	653	601	2494
7	Katsina	3,924,310	1480	391	474	451	409	1725
8	Lagos	6,185,128	5,123	993	1036	1005	956	3990
9	Niger	2,454,344	780	145	149	154	158	606
10	Ondo	2,566,502	1062	291	287	216	298	1092
11	Osun	2,265,332	1,682	308	305	310	305	1228
12	Rivers	3,383,511	1,526	262	264	262	239	1027
	Total	**40,853,360**	**24,271**	**4439**	**4841**	**4765**	**4681**	**18,726**

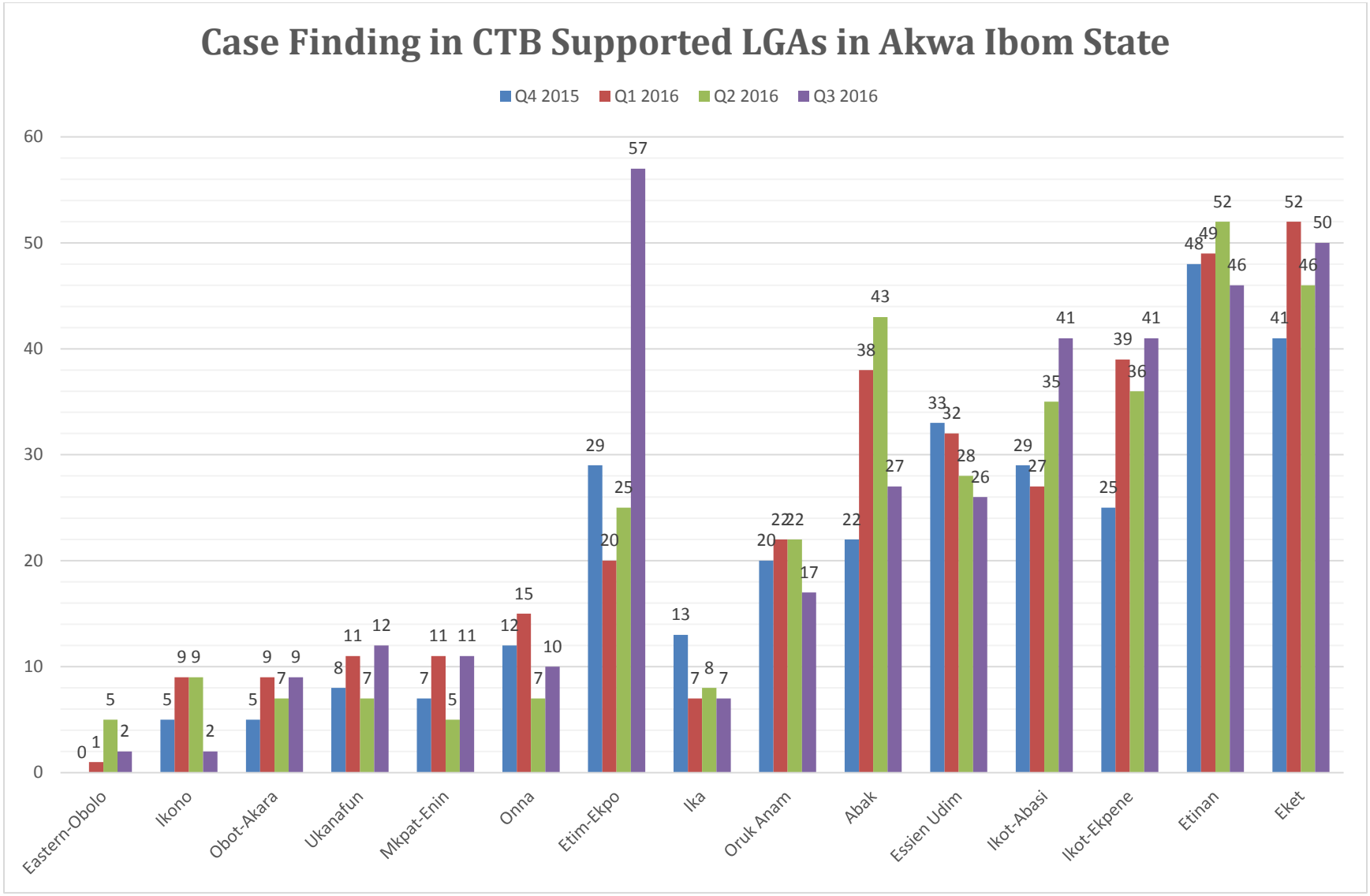
COMPARISON OFTB CASES NOTIFIED AGAINST THE FY 16 TARGET IN CTB SUPPORTED LGAS IN 12 STATES

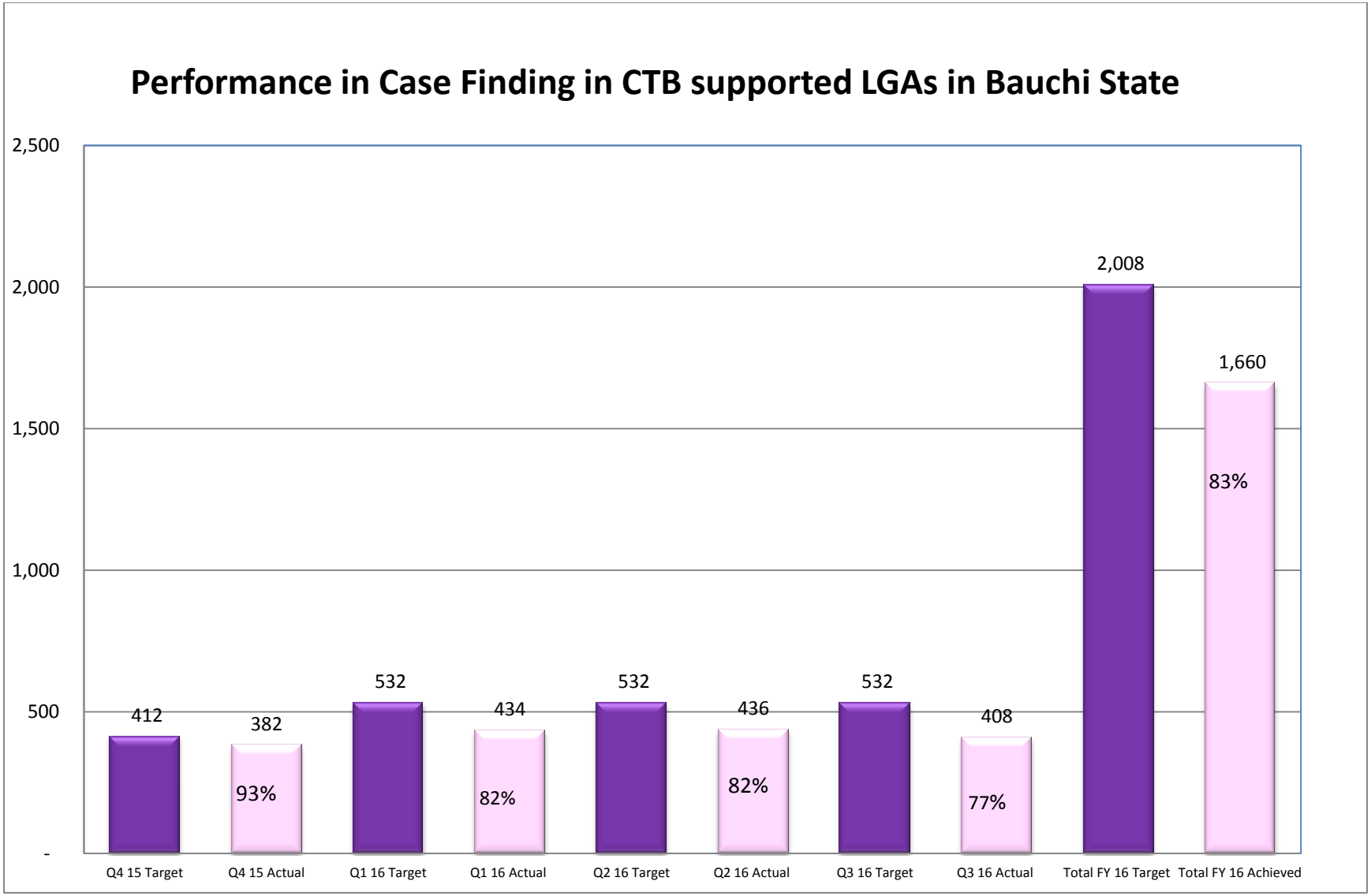


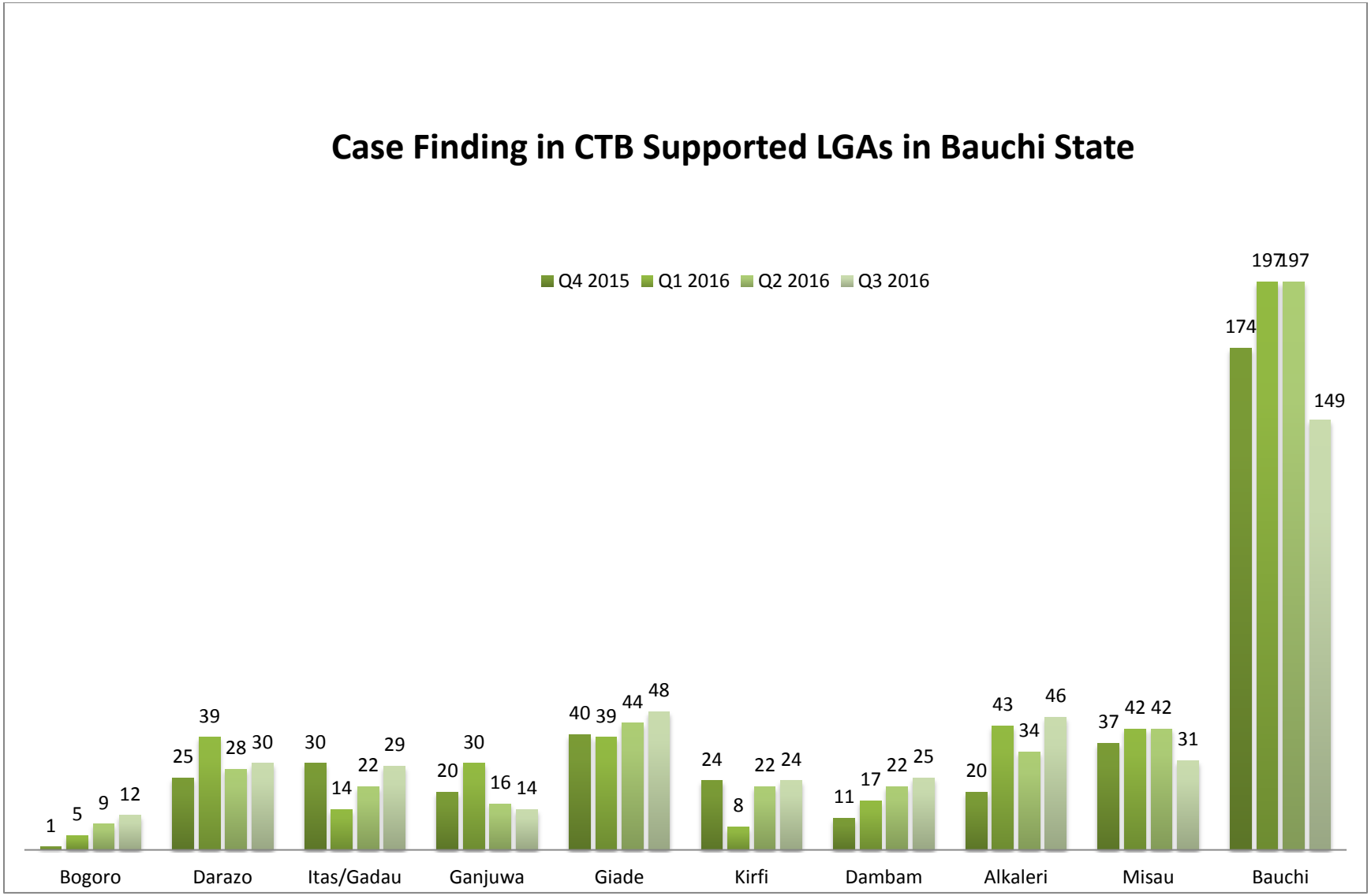

Percentage of Target Met for All forms of TB Cases Notified in CTB Supported LGAs in 12 States
Akwa Ibom
62
Kano
64
Rivers
67
Enugu
73
Osun
73
Total
77
Benue
77
Niger
78
Lagos
78
Bauchi
83
Cross river
85
Ondo
103
Katsina
117
0
20
40
60
80
100
120
140

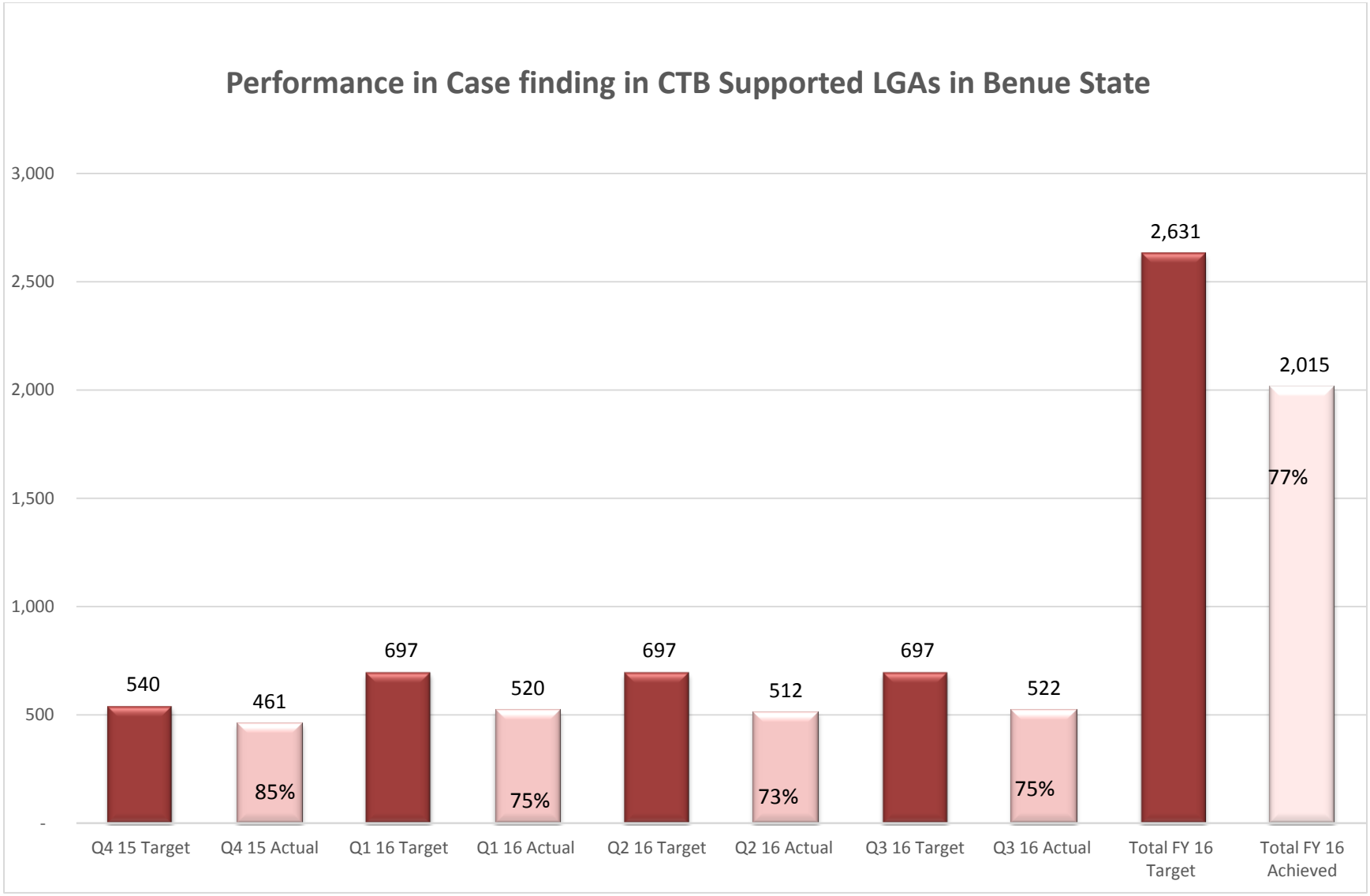

Trend in TB All forms of TB cases Notified in CTB Supported 151 LGAs in 12 States
4900
4800
4700
4600
4500
4400
4300
4200
4100
4000
commencement of CTB
4304
4439
4841
4765
4681
Q3 2015 Actual
Q4 2015 Actual
Q1 2016 Actual
Q2 2016 Actual
Q3 2016 Actual

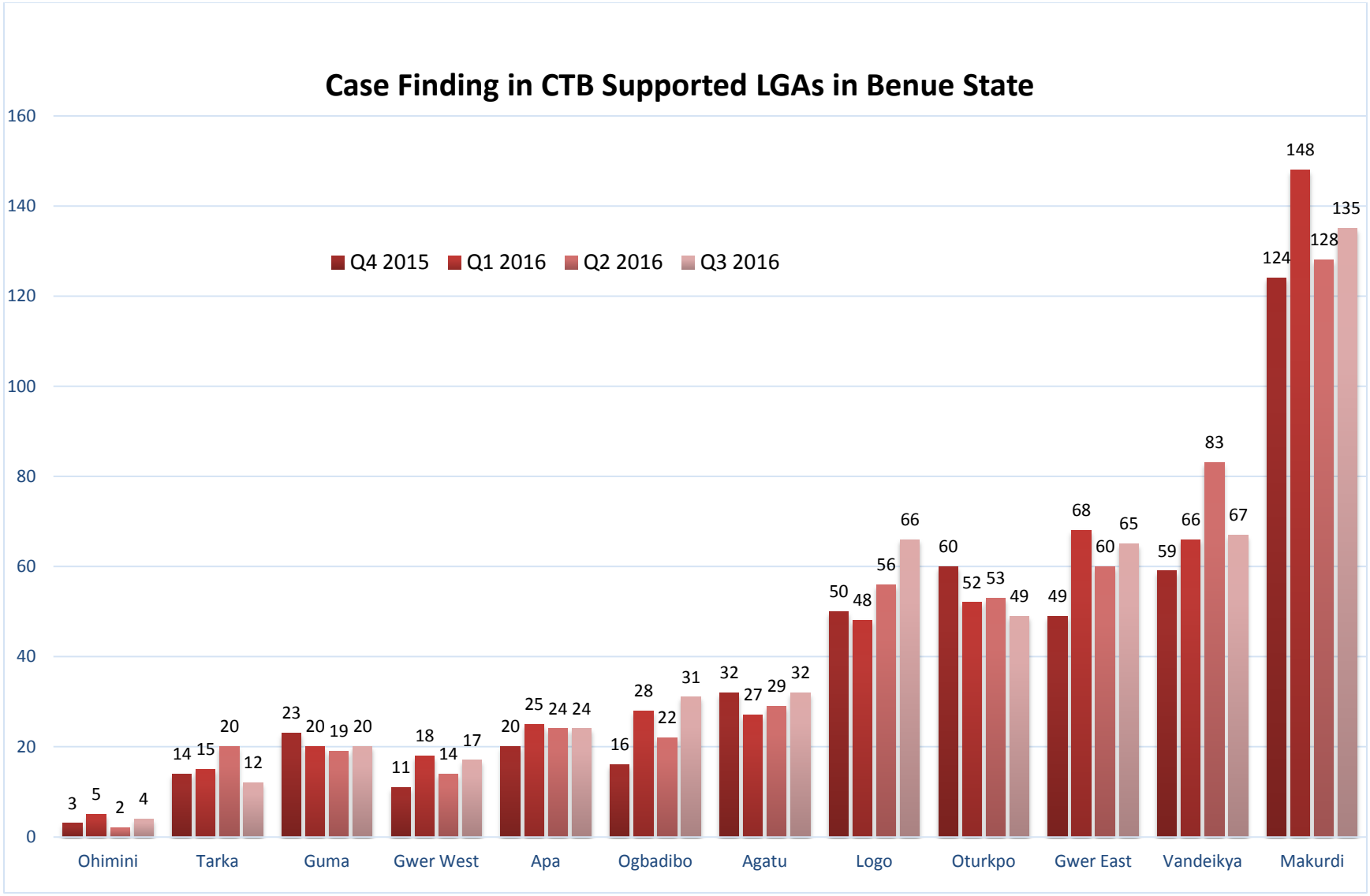

Performance in Case Finding in CTB Supported LGAs in Akwa Ibom State
2,500
2,000
1,500
1,000
500
-
442
297
52%
570
342
60%
570
335
59%
570
358
63%
2,151
1,332
62%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

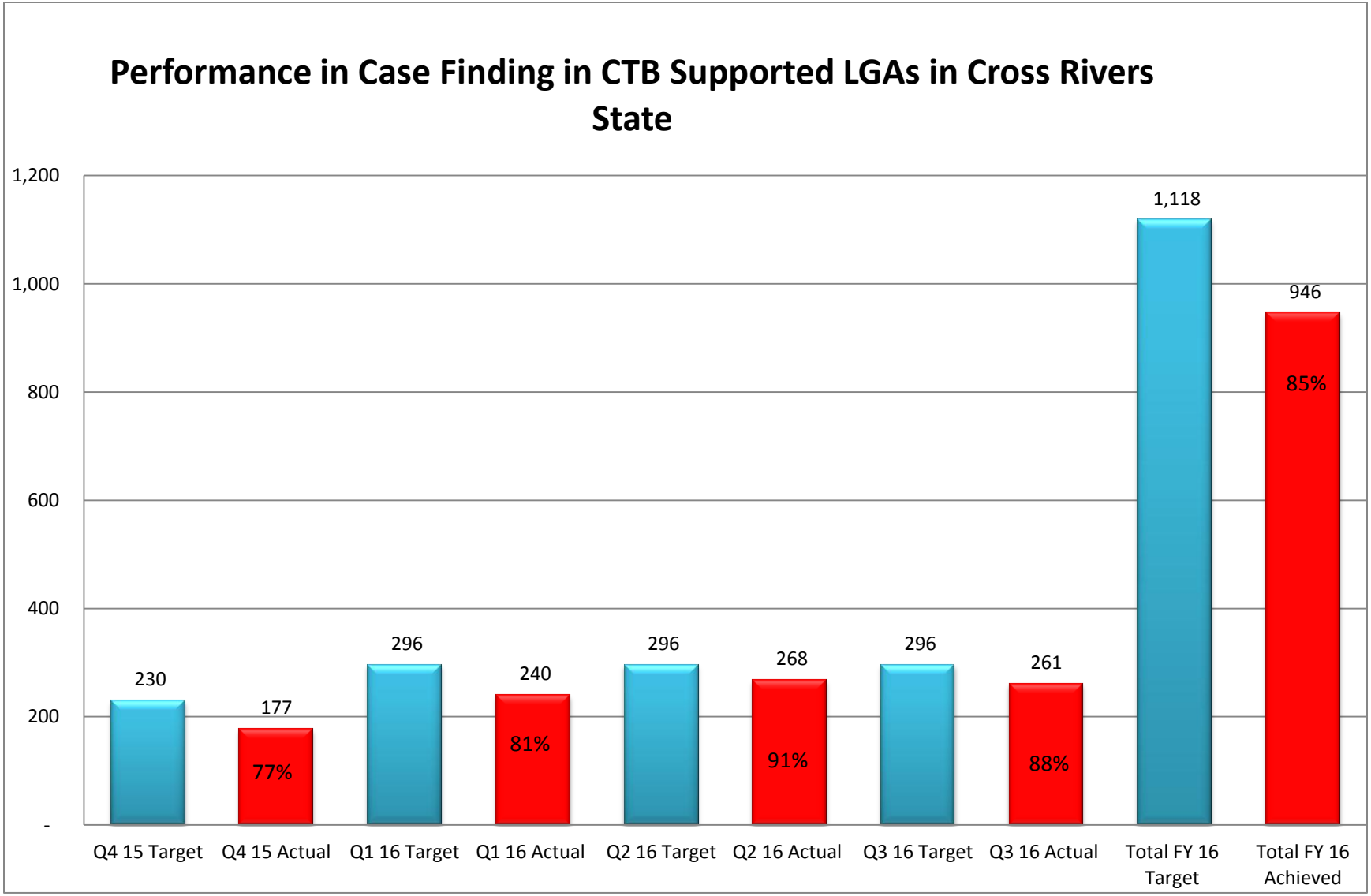

Case Finding in CTB Supported LGAs in Akwa Ibom State
Q4 2015
Q1 2016
Q2 2016
Q3 2016
60
50
40
30
20
10
0
Eastern-Obolo
Ikono
Obot-Akara
Ukanafun
Mkpat-Enin
Onna
Etim-Ekpo
Ika
Oruk Anam
Abak
Essien Udim
Ikot-Abasi
Ikot-Ekpene
Etinan
Eket

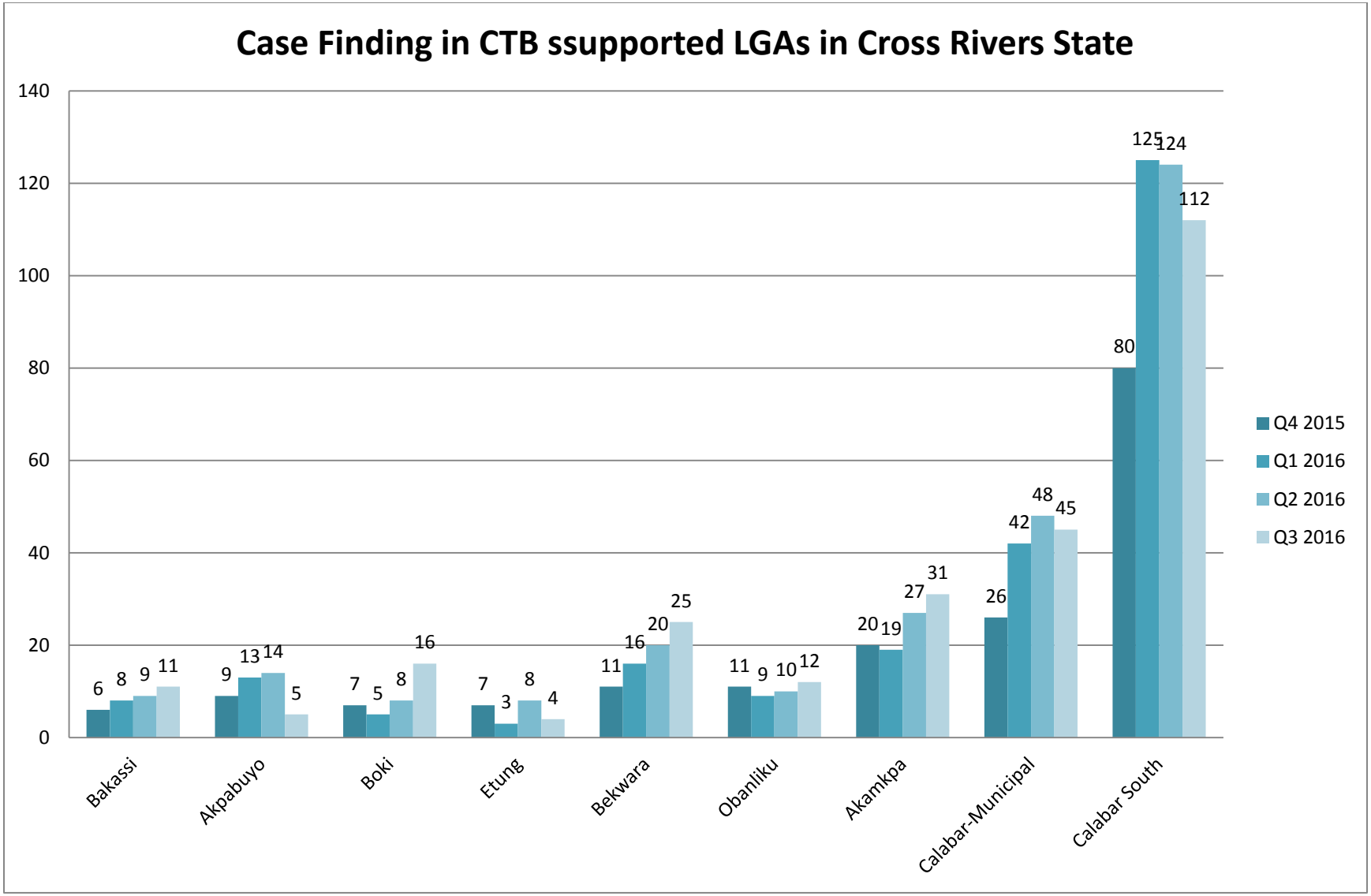

Performance in Case Finding in CTB supported LGAs in Bauchi State
2,500
2,000
1,500
1,000
500
-
412
382
93%
532
434
82%
532
436
82%
532
408
77%
2,008
1,660
83%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

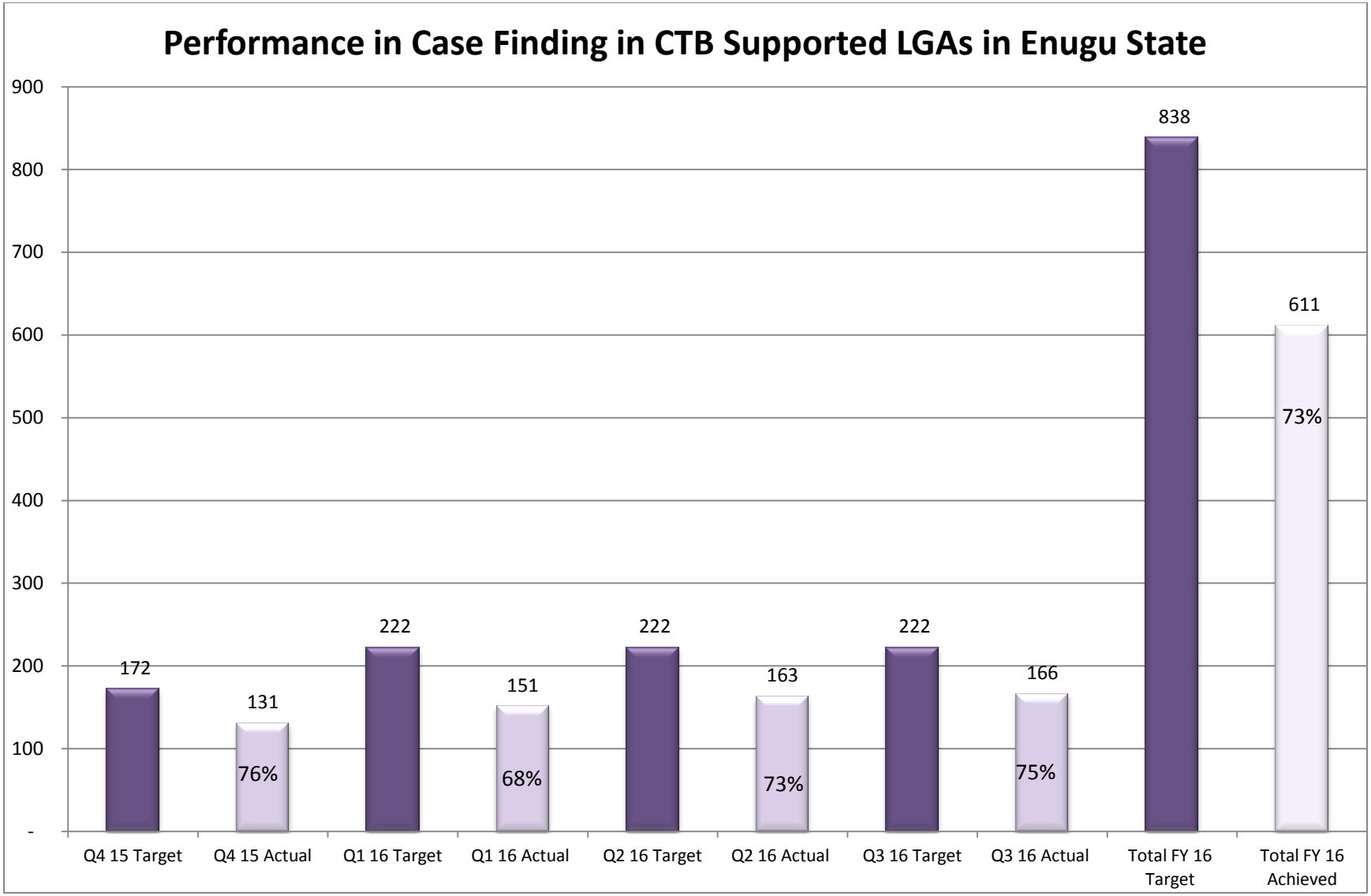

Case Finding in CTB Supported LGAs in Bauchi State
Q4 2015
Q1 2016
Q2 2016
Q3 2016
1
5
9
12
25
39
28
30
30
14
22
29
20
30
16
14
40
39
44
48
24
8
22
24
11
17
22
25
20
43
34
46
37
42
42
31
174
197
197
149
Bogoro
Darazo
Itas/Gadau
Ganjuwa
Giade
Kirfi
Dambam
Alkaleri
Misau
Bauchi

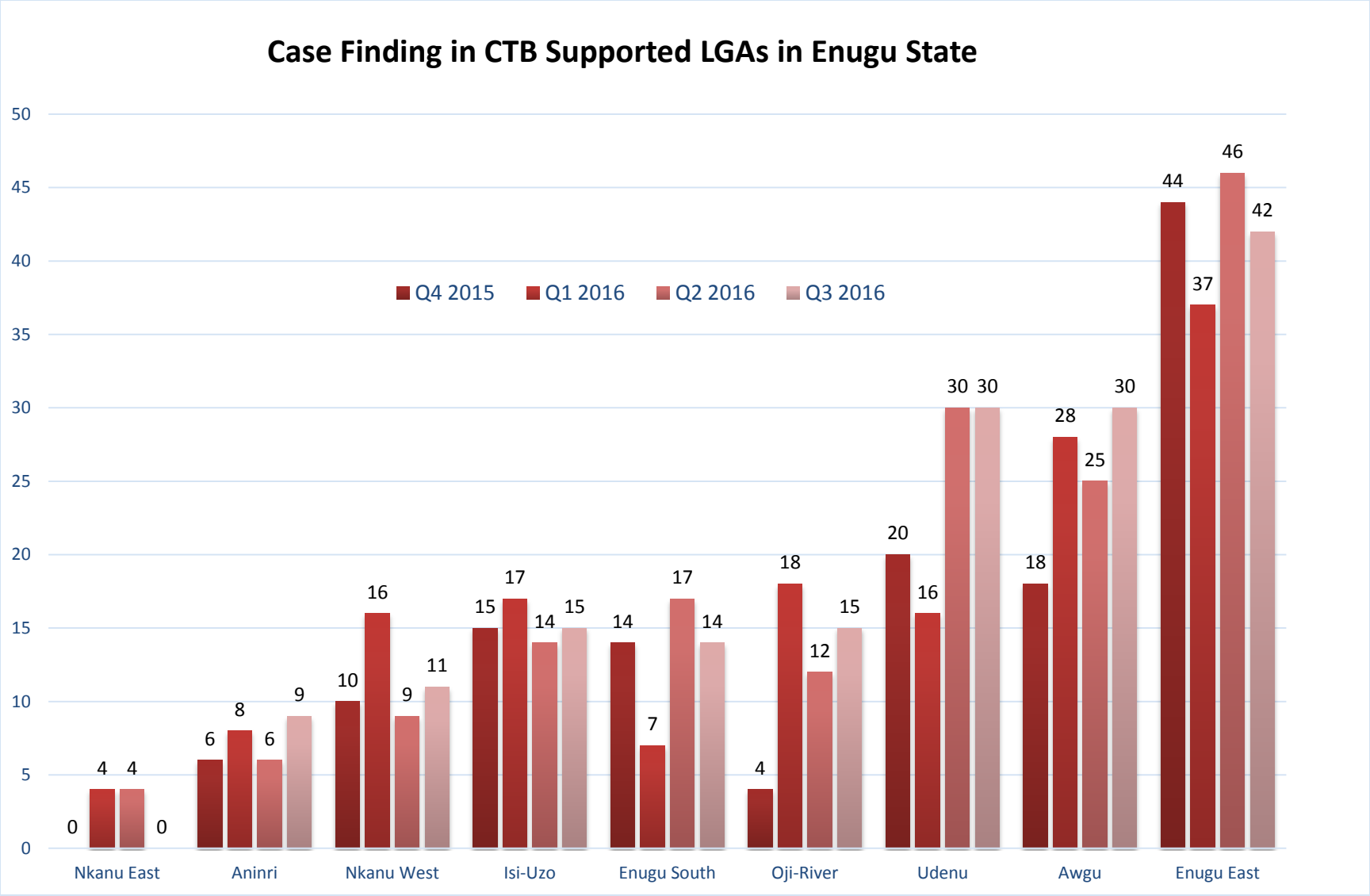

Performance in Case finding in CTB Supported LGAs in Benue State
3,000
2,500
2,000
1,500
1,000
500
-
540
461
85%
697
520
75%
697
512
73%
697
522
75%
2,631
2,015
77%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

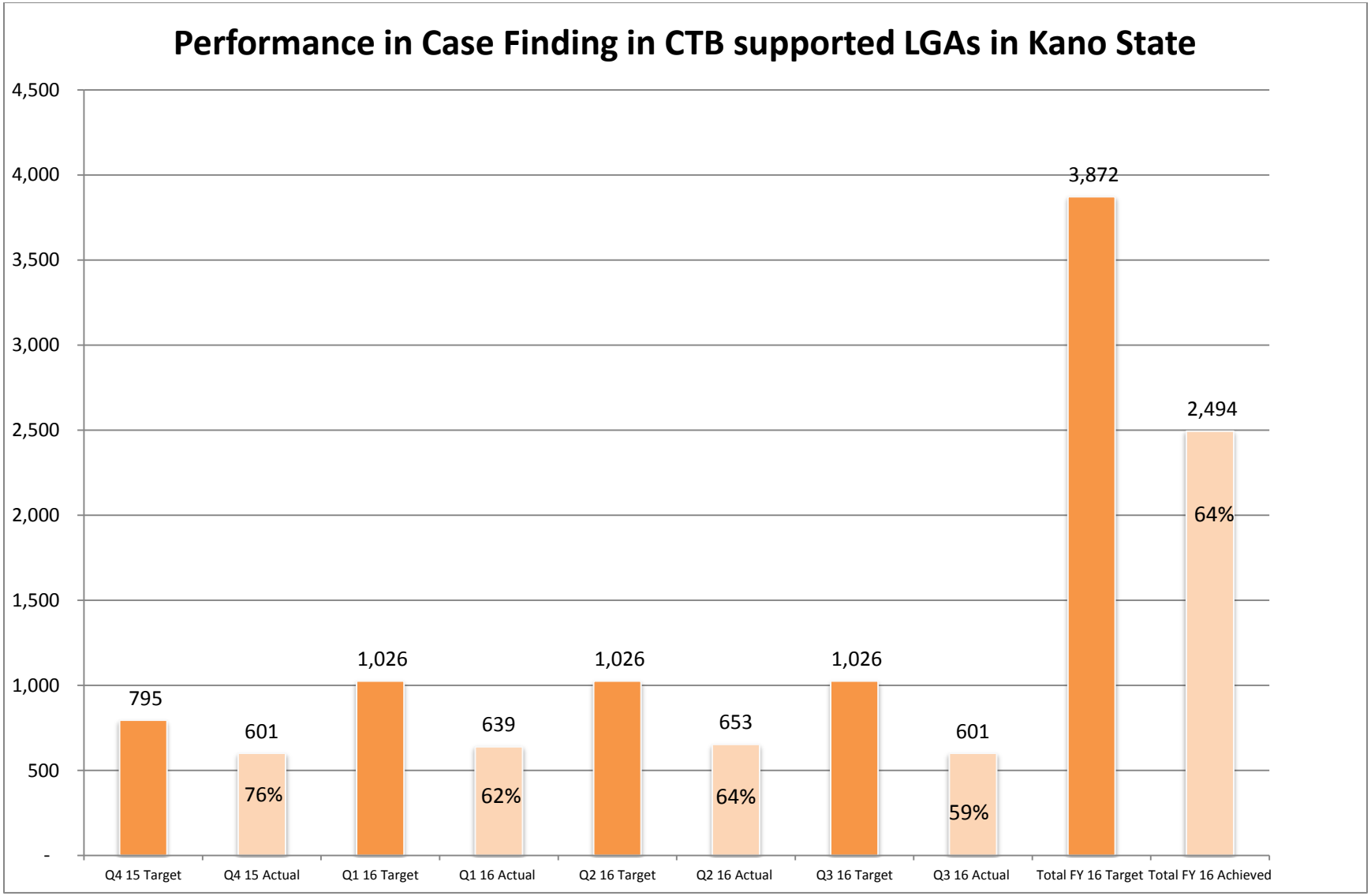

Case Finding in CTB Supported LGAs in Benue State
Q4 2015
Q1 2016
Q2 2016
Q3 2016
160
140
120
100
80
60
40
20
0
Ohimini
3
5
2
4
Tarka
14
15
20
12
Guma
23
20
19
20
Gwer West
11
18
14
17
Apa
20
25
24
24
Ogbadibo
16
28
22
31
Agatu
32
27
29
32
Logo
50
48
56
66
Oturkpo
60
52
53
49
Gwer East
49
68
60
65
Vandeikya
59
66
83
67
Makurdi
124
148
128
135

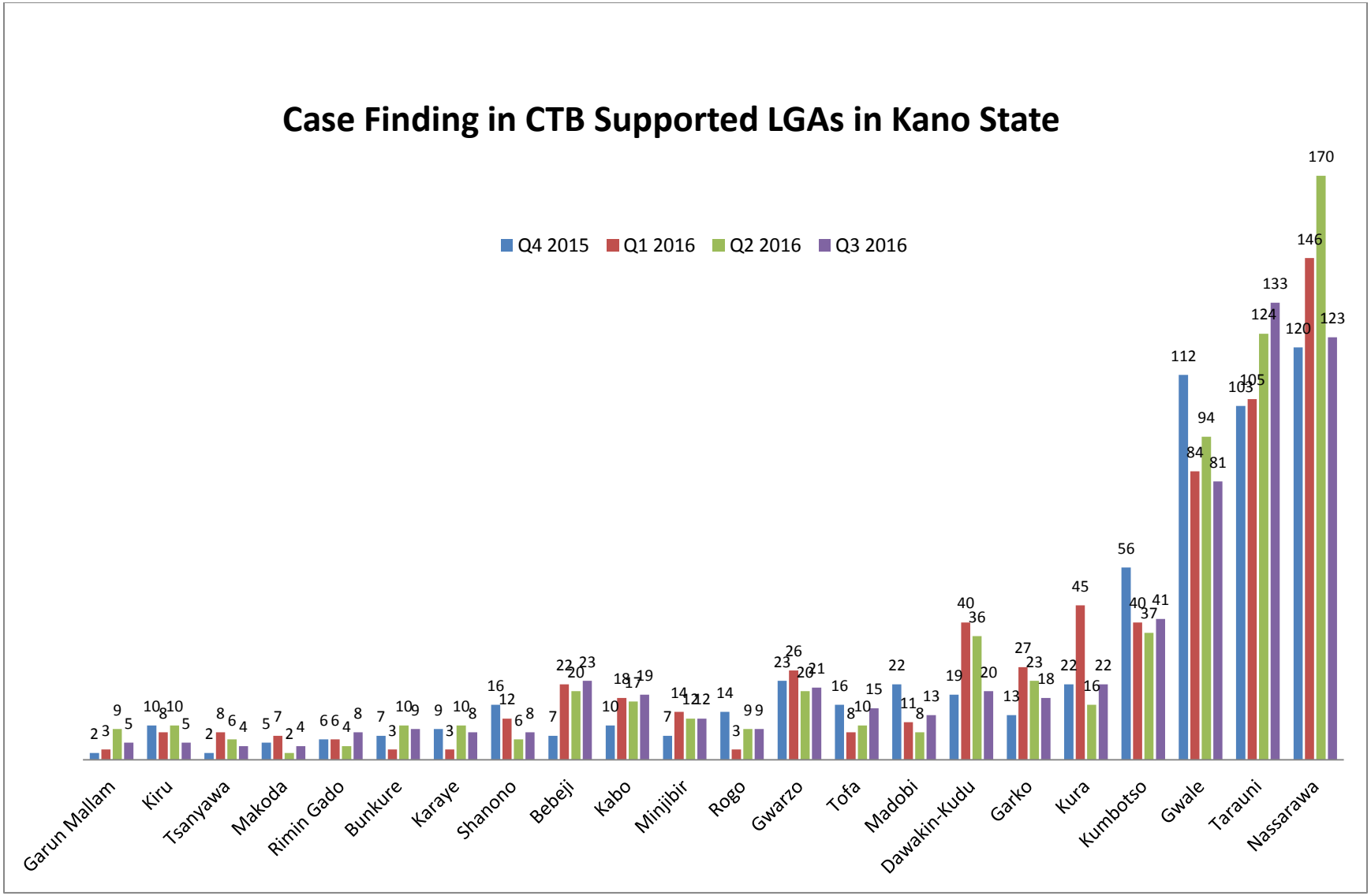

Performance in Case Finding in CTB Supported LGAs in Cross Rivers State
1,200
1,000
800
600
400
200
-
230
177
77%
296
240
81%
296
268
91%
296
261
88%
1,118
946
85%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

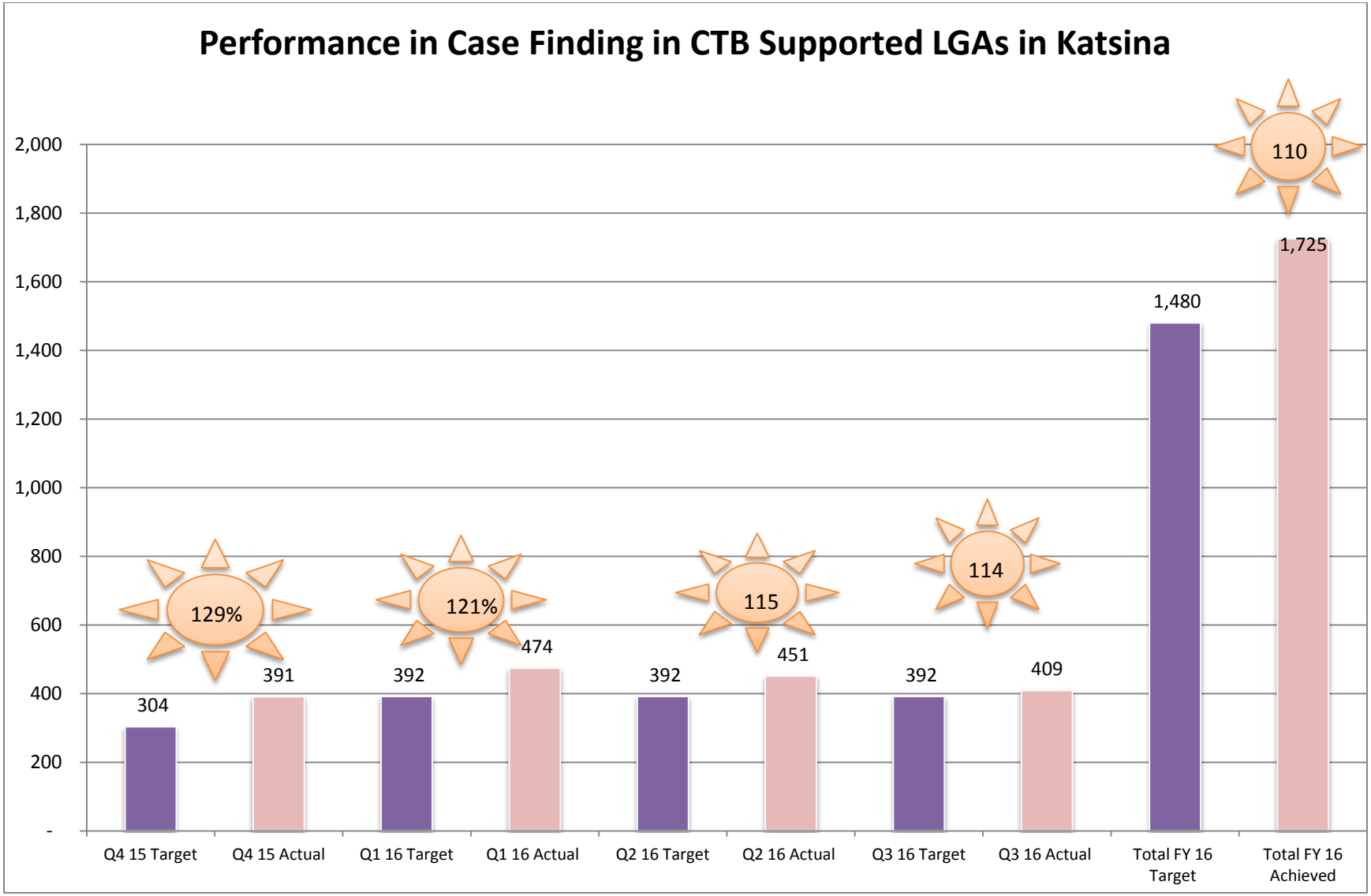

Case Finding in CTB ssupported LGAs in Cross Rivers State
140
120
100
80
60
40
20
0
Bakassi
Akpabuyo
Boki
Etung
Bekwara
Obanliku
Akamkpa
Calabar-Municipal
Calabar South
6 8 9 11
9 13 14 5
7 5 8 16
7 3 8 4
11 16 20 25
11 9 10 12
20 19 27 31
26 42 48 45
80 125 124 112
Q4 2015
Q1 2016
Q2 2016
Q3 2016


Performance in Case Finding in CTB Supported LGAs in Enugu State
900
800
700
600
500
400
300
200
100
-
172
131
76%
222
151
68%
222
163
73%
222
166
75%
838
611
73%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

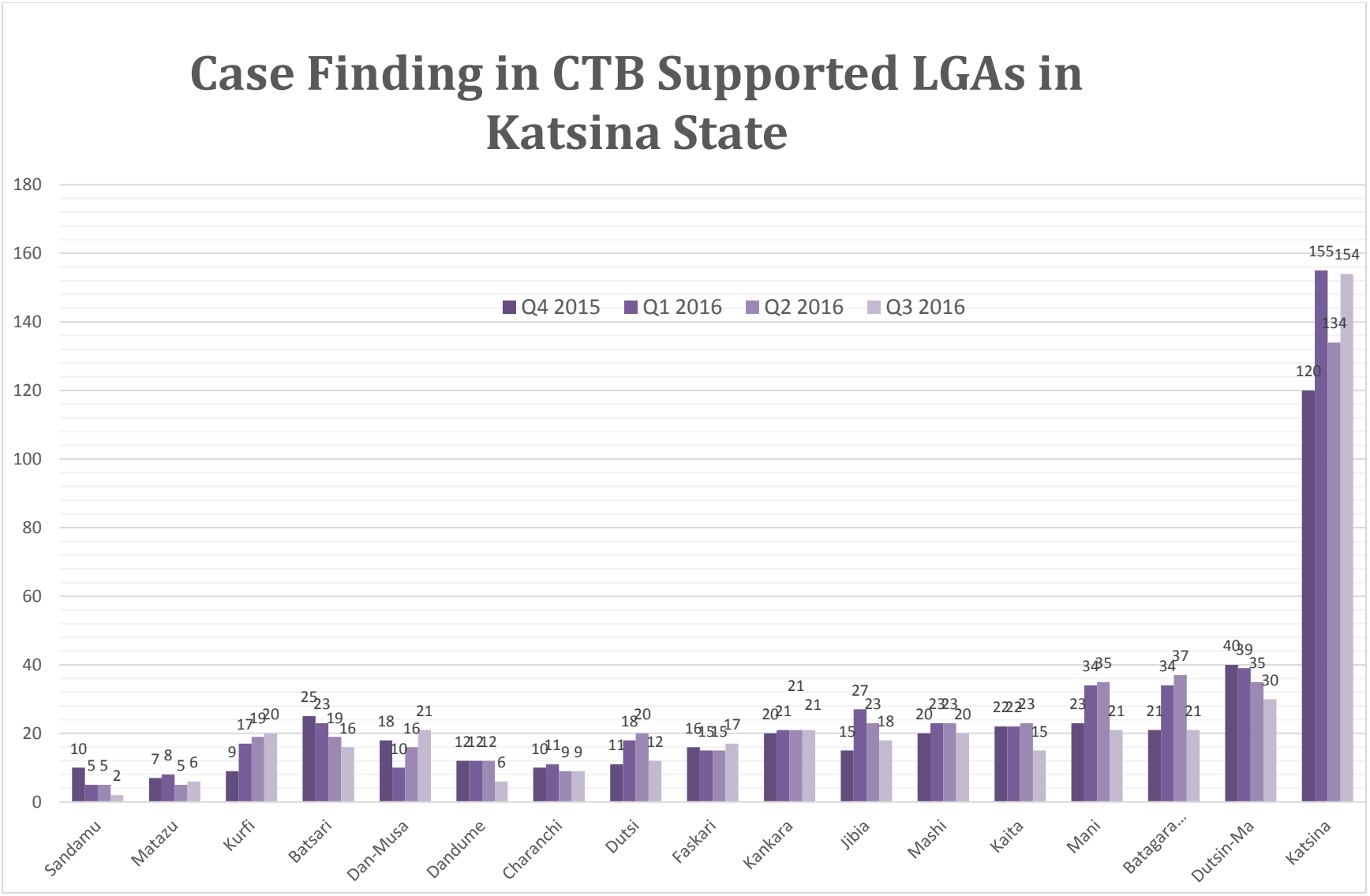

Case Finding in CTB Supported LGAs in Enugu State
50
45
40
35
30
25
20
15
10
5
0
Q4 2015
Q1 2016
Q2 2016
Q3 2016
0
4
4
0
6
8
6
9
10
16
9
11
15
17
14
15
14
7
17
14
4
18
12
15
20
16
30
30
18
28
25
30
44
37
46
42
Nkanu East
Aninri
Nkanu West
Isi-Uzo
Enugu South
Oji-River
Udenu
Awgu
Enugu East

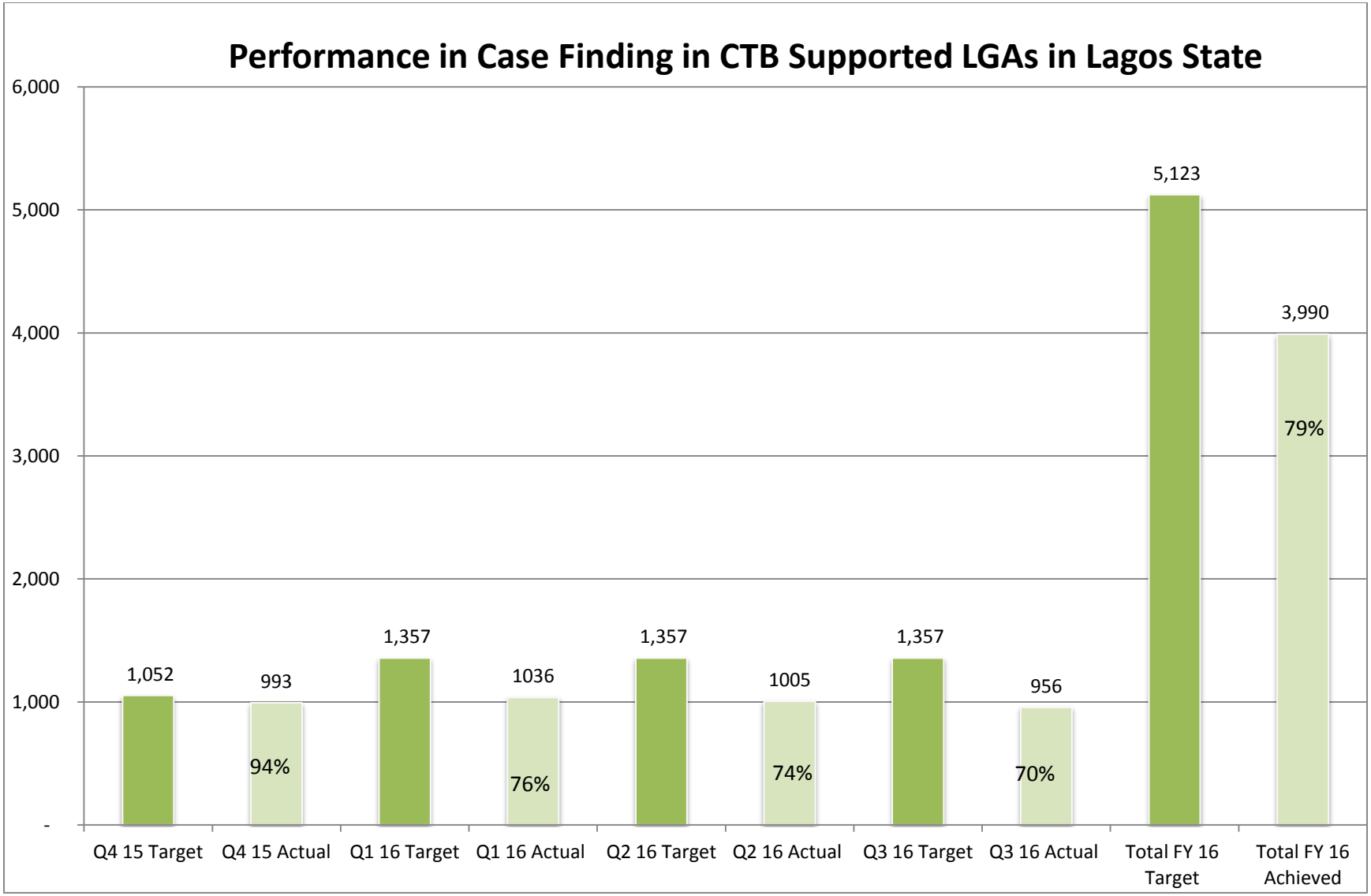

Performance in Case Finding in CTB supported LGAs in Kano State
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
795
601
76%
1,026
639
62%
1,026
653
64%
1,026
601
59%
3,872
2,494
64%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

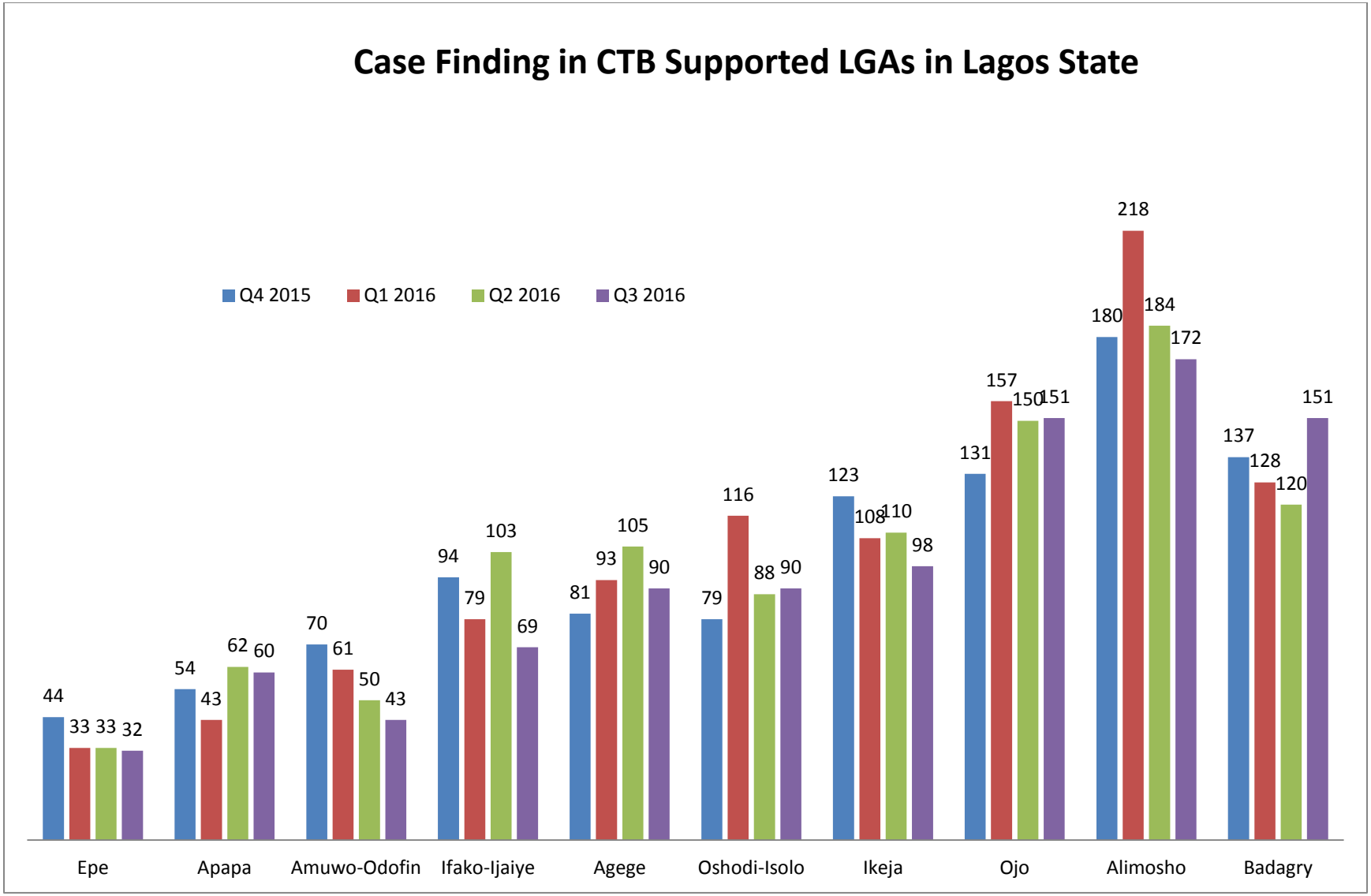

Case Finding in CTB Supported LGAs in Kano State
Q4 2015
Q1 2016
Q2 2016
Q3 2016
Garun Mallam
Kiru
Tsanyawa
Makoda
Rimin Gado
Bunkure
Karaye
Shanono
Bebeji
Kabo
Minjibir
Rogo
Gwarzo
Tofa
Madobi
Dawakin-Kudu
Garko
Kura
Kumbotso
Gwale
Tarauni
Nassarawa

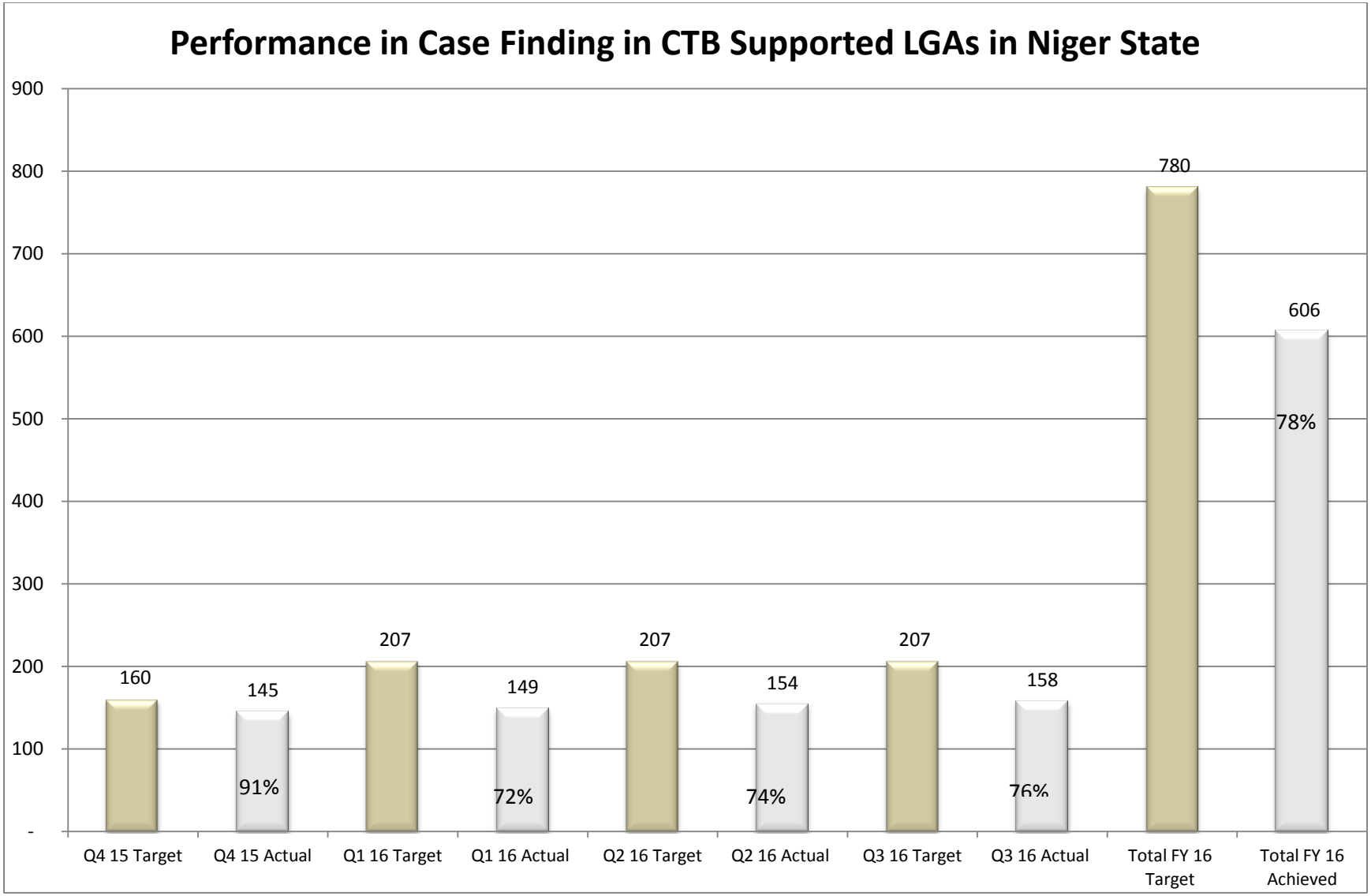

Performance in Case Finding in CTB Supported LGAs in Katsina
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
129%
121%
115
114
110
304
391
392
474
392
451
392
409
1,480
1,725
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

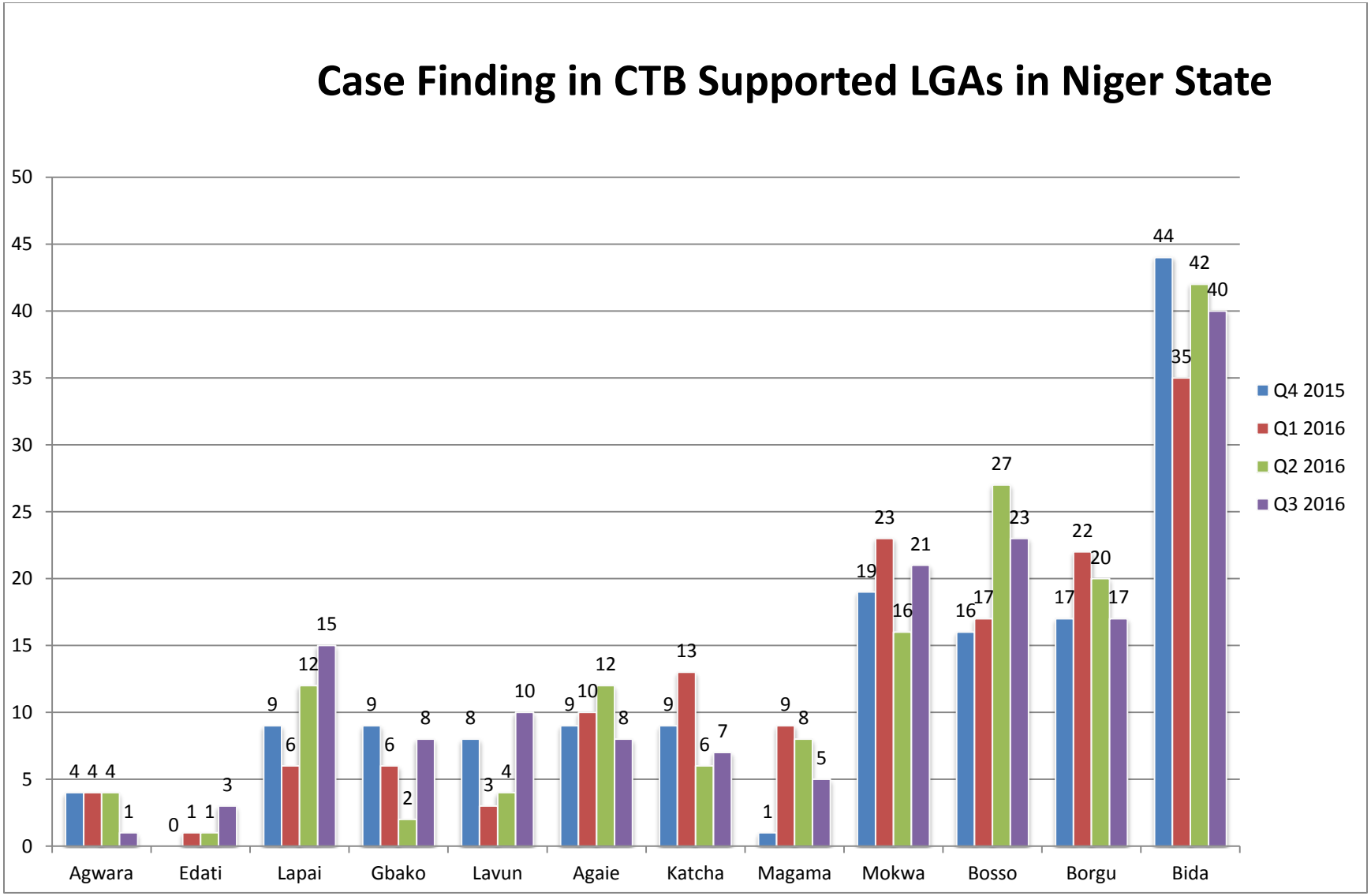
Case Finding in CTB Supported LGAs in Katsina State

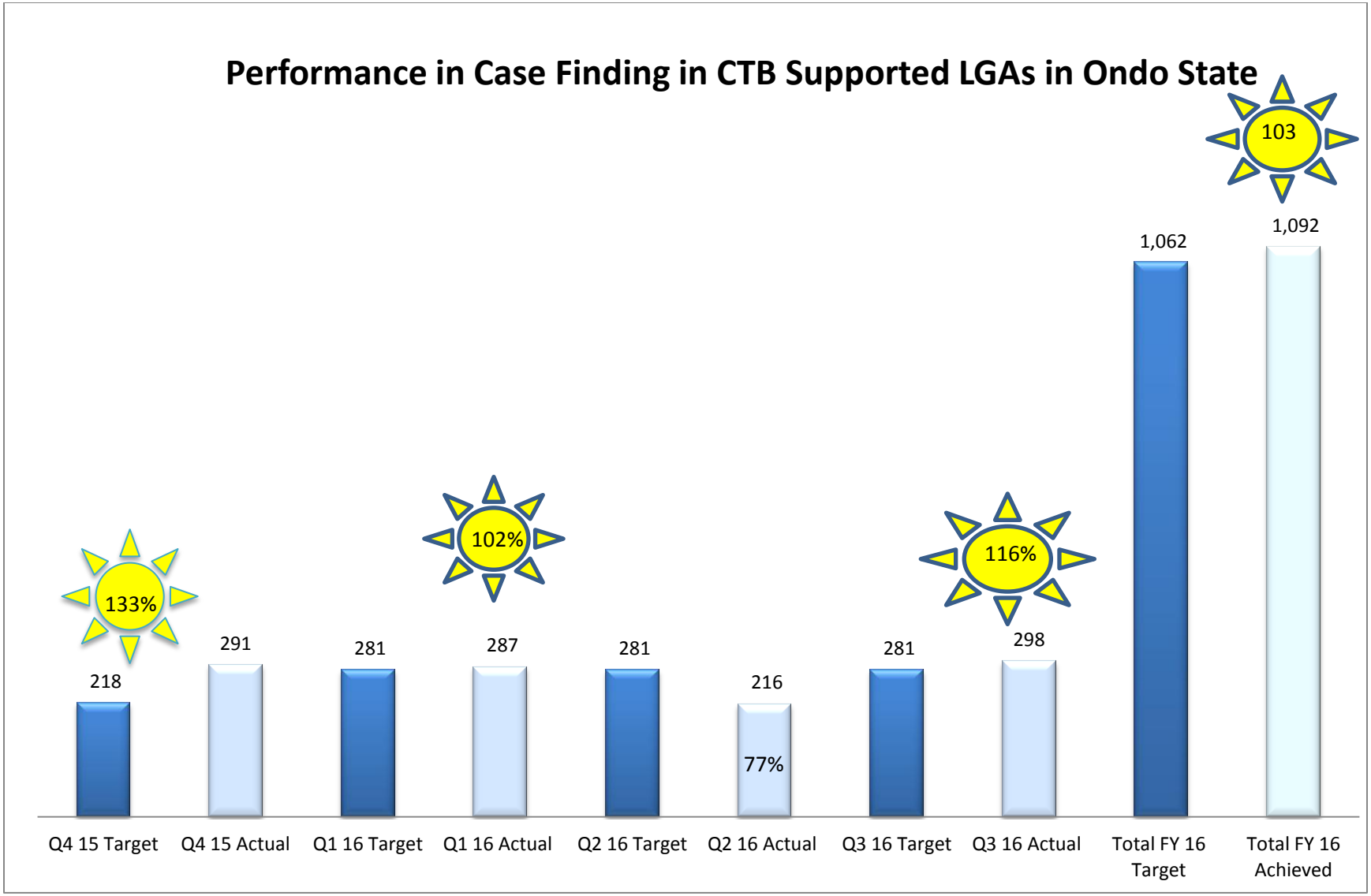


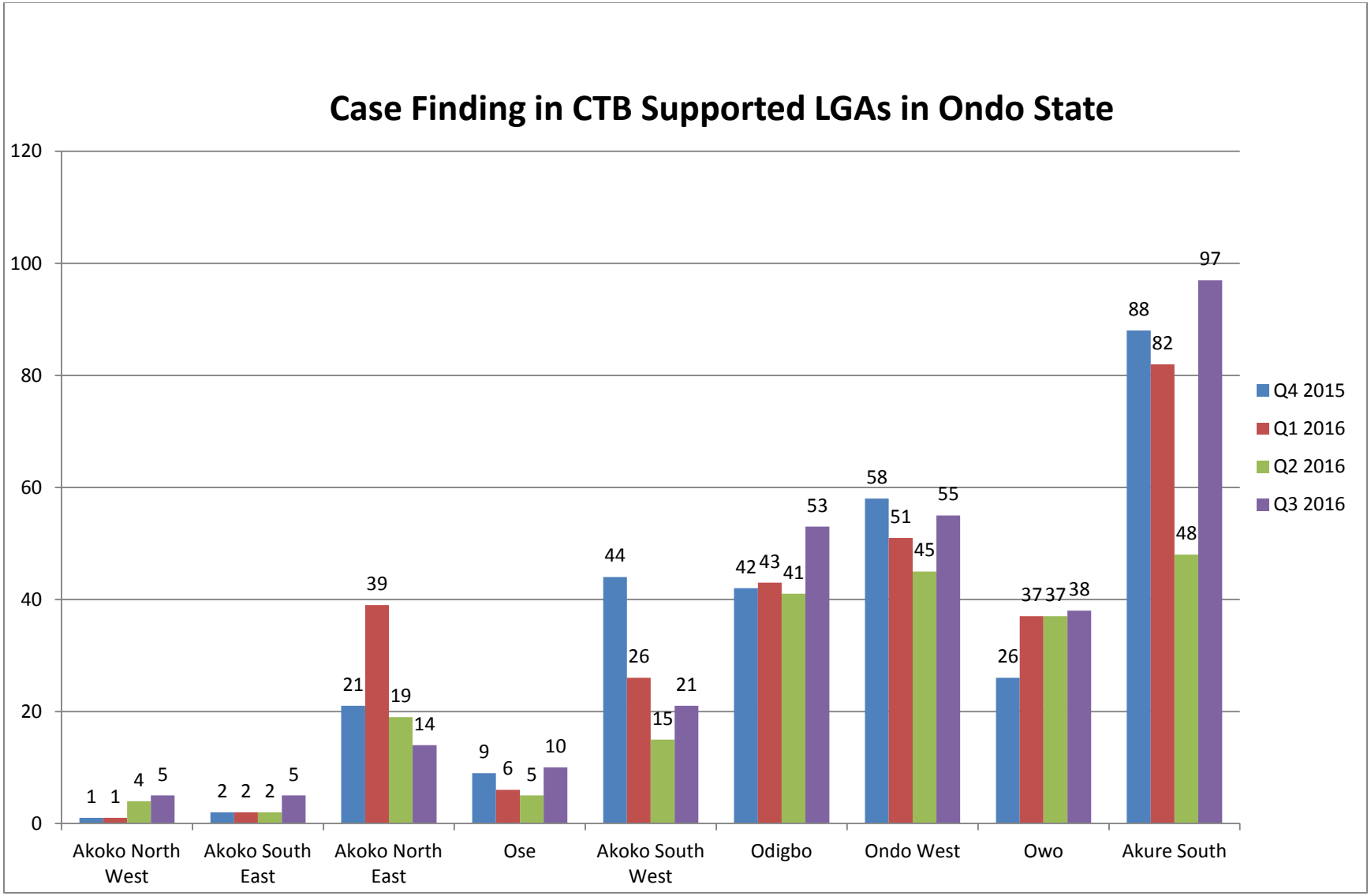

Performance in Case Finding in CTB Supported LGAs in Lagos State
6,000
5,000
4,000
3,000
2,000
1,000
-
1,052
993
94%
1,357
1036
76%
1,357
1005
74%
1,357
956
70%
5,123
3,990
79%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

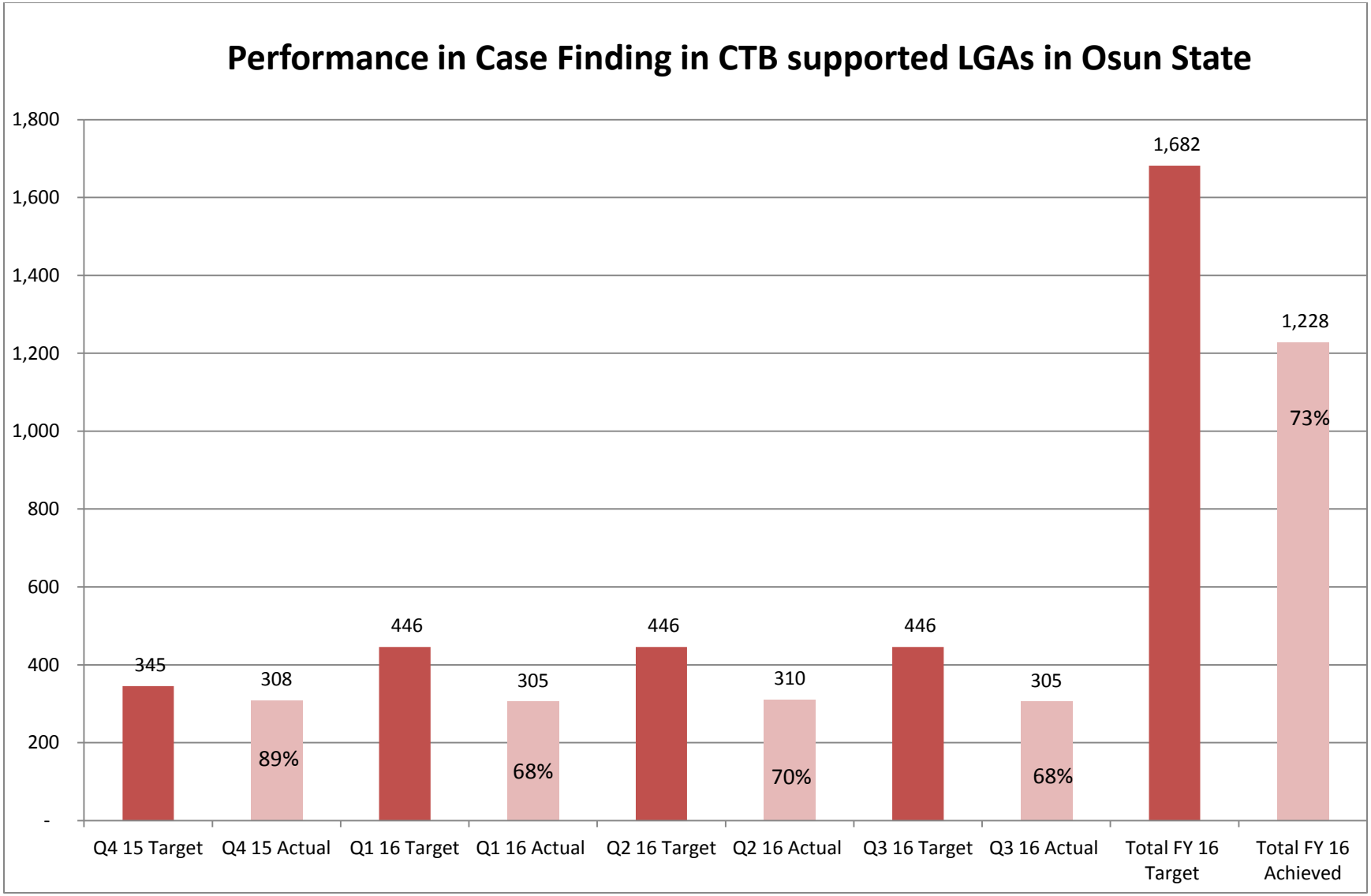

Case Finding in CTB Supported LGAs in Lagos State
Q4 2015
Q1 2016
Q2 2016
Q3 2016
44
33
33
32
54
43
62
60
70
61
50
43
94
79
103
69
81
93
105
90
79
116
88
90
123
108
110
98
131
157
150
151
180
218
184
172
137
128
120
151
Epe
Apapa
Amuwo-Odofin
Ifako-Ijaiye
Agege
Oshodi-Isolo
Ikeja
Ojo
Alimosho
Badagry

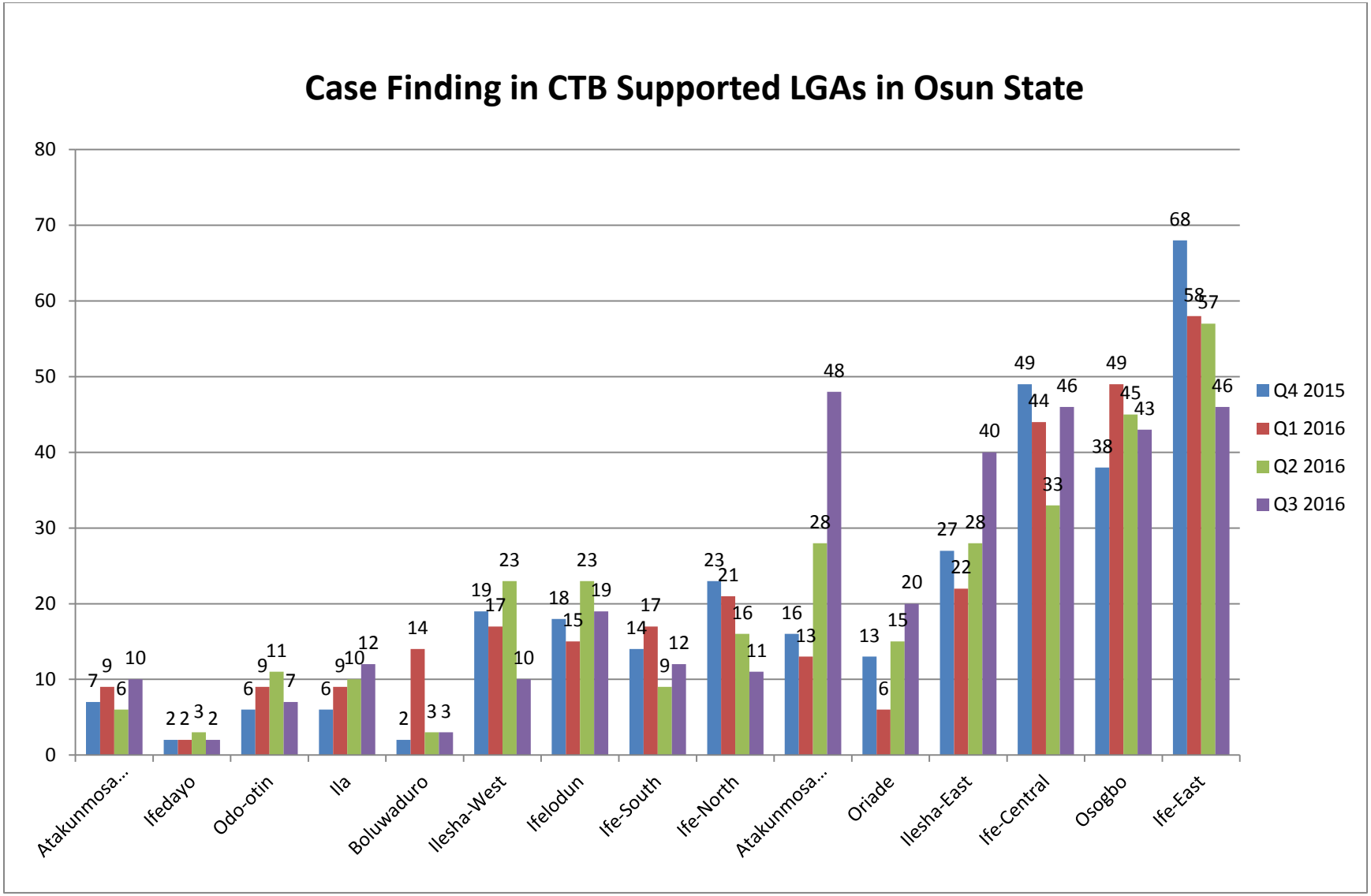

Performance in Case Finding in CTB Supported LGAs in Niger State
900
800
700
600
500
400
300
200
100
-
160
145
207
149
207
154
207
158
780
606
91%
72%
74%
76%
78%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

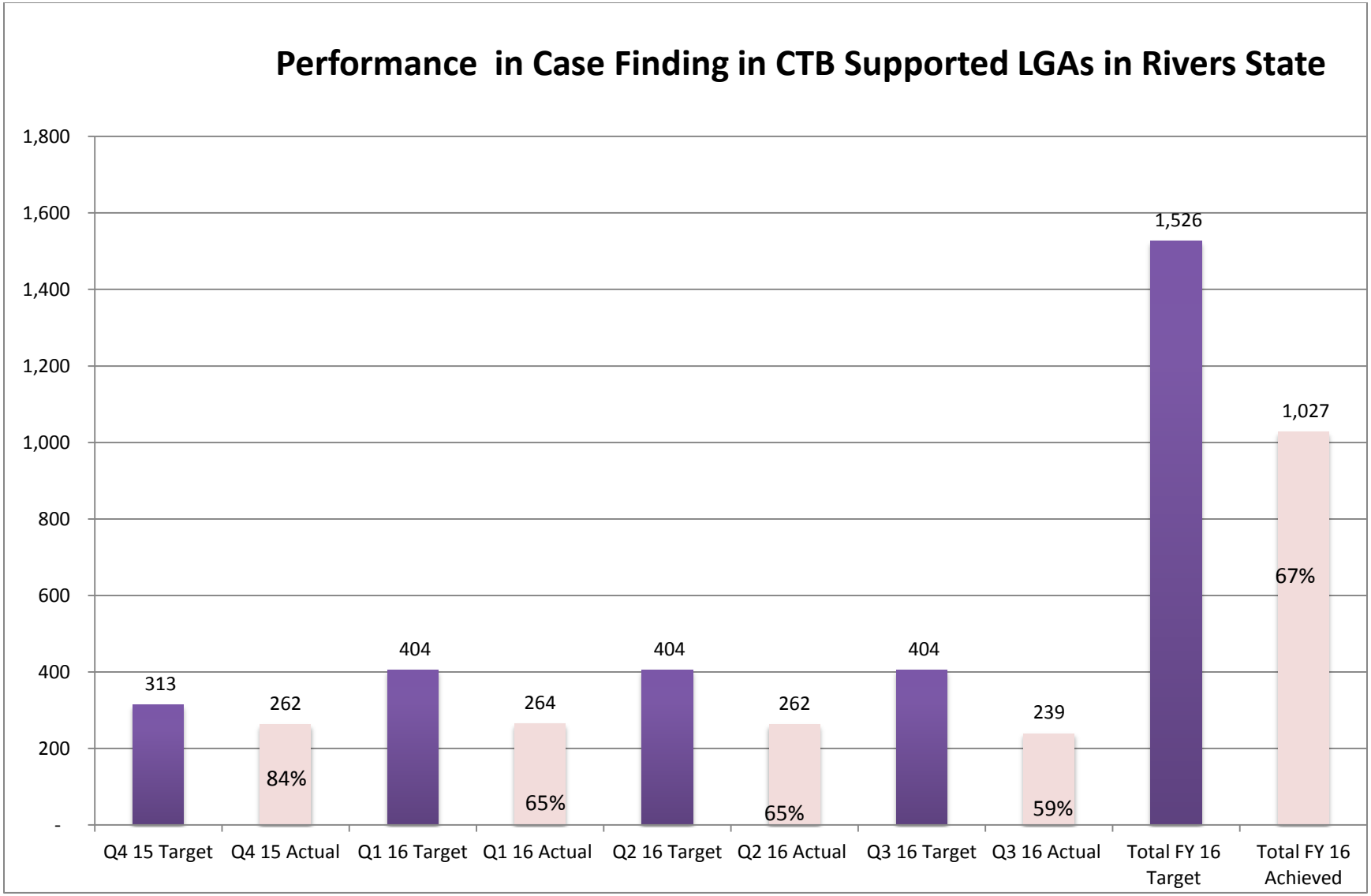

Case Finding in CTB Supported LGAs in Niger State
50
45
40
35
30
25
20
15
10
5
0
Agwara 4 4 4 1
Edati 0 1 1 3
Lapai 9 6 12 15
Gbako 9 6 2 8
Lavun 8 3 4 10
Agaie 9 10 12 8
Katcha 9 13 6 7
Magama 1 9 8 5
Mokwa 19 23 16 21
Bosso 16 17 27 23
Borgu 17 22 20 17
Bida 44 35 42 40
Q4 2015
Q1 2016
Q2 2016
Q3 2016

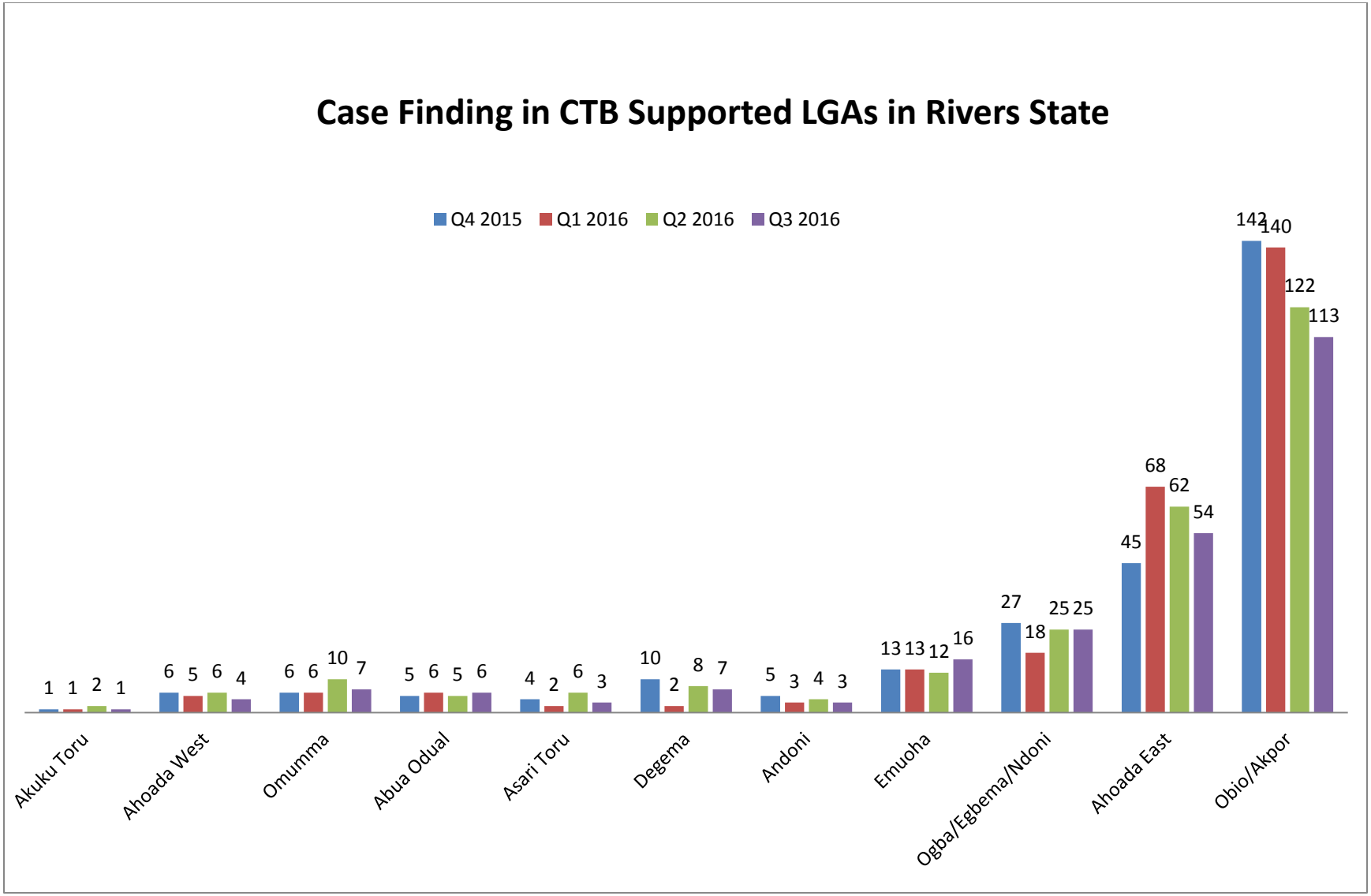

Performance in Case Finding in CTB Supported LGAs in Ondo State
133%
102%
116%
103
218
291
281
287
281
216
77%
281
298
1,062
1,092
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved


Case Finding in CTB Supported LGAs in Ondo State
120
100
80
60
40
20
0
1 1 4 5
2 2 2 5
21 39 19 14
9 6 5 10
44 26 15 21
42 43 41 53
58 51 45 55
26 37 37 38
88 82 48 97
Akoko North West
Akoko South East
Akoko North East
Ose
Akoko South West
Odigbo
Ondo West
Owo
Akure South
Q4 2015
Q1 2016
Q2 2016
Q3 2016

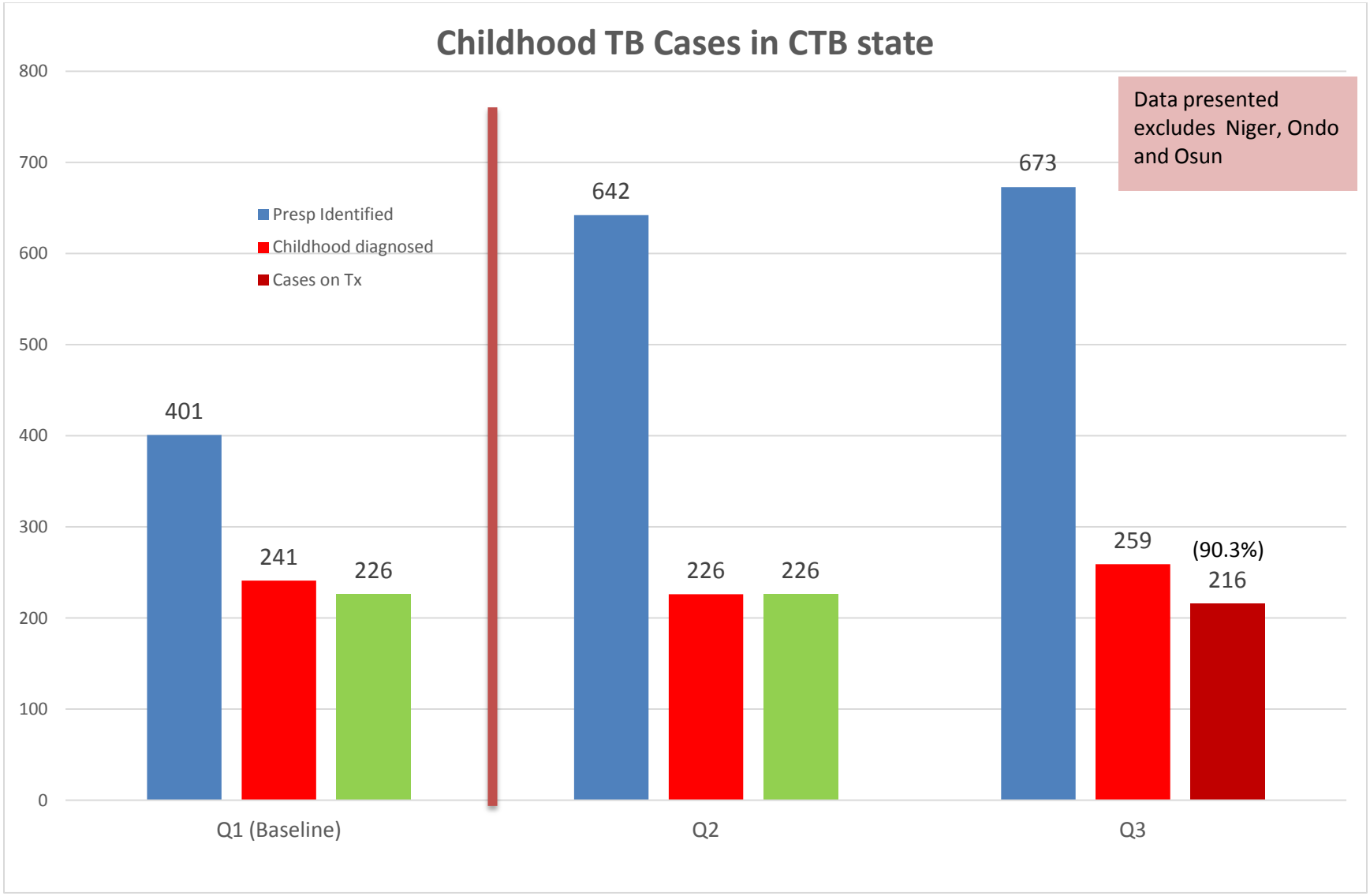

Performance in Case Finding in CTB supported LGAs in Osun State
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
345
308
89%
446
305
68%
446
310
70%
446
305
68%
1,682
1,228
73%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

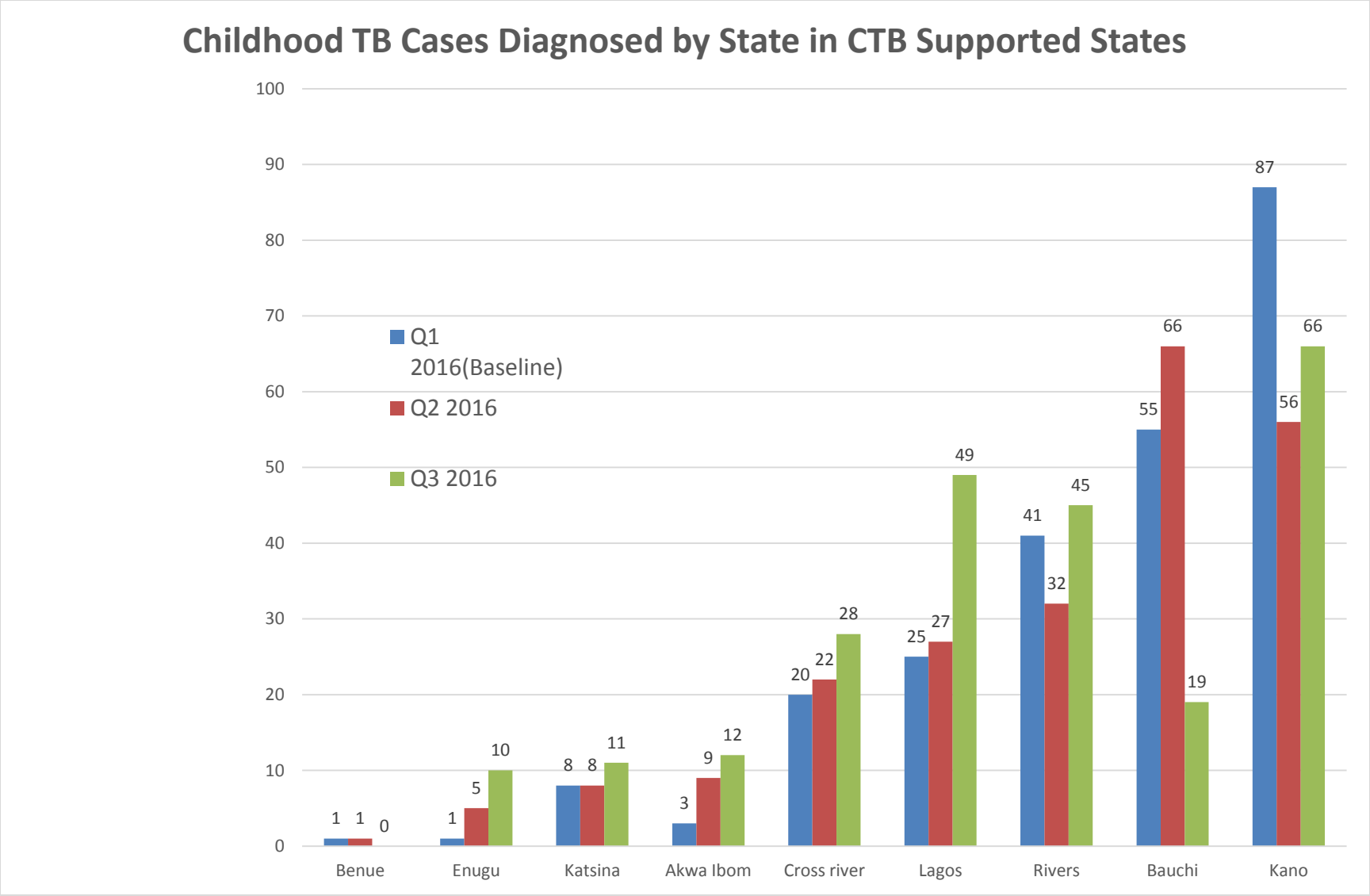

Case Finding in CTB Supported LGAs in Osun State
80
70
60
50
40
30
20
10
0
Atakunmosa...
Ifedayo
Odo-otin
Ila
Boluwaduro
Ilesha-West
Ifelodun
Ife-South
Ife-North
Atakunmosa...
Oriade
Ilesha-East
Ife-Central
Osogbo
Ife-East
Q4 2015
Q1 2016
Q2 2016
Q3 2016

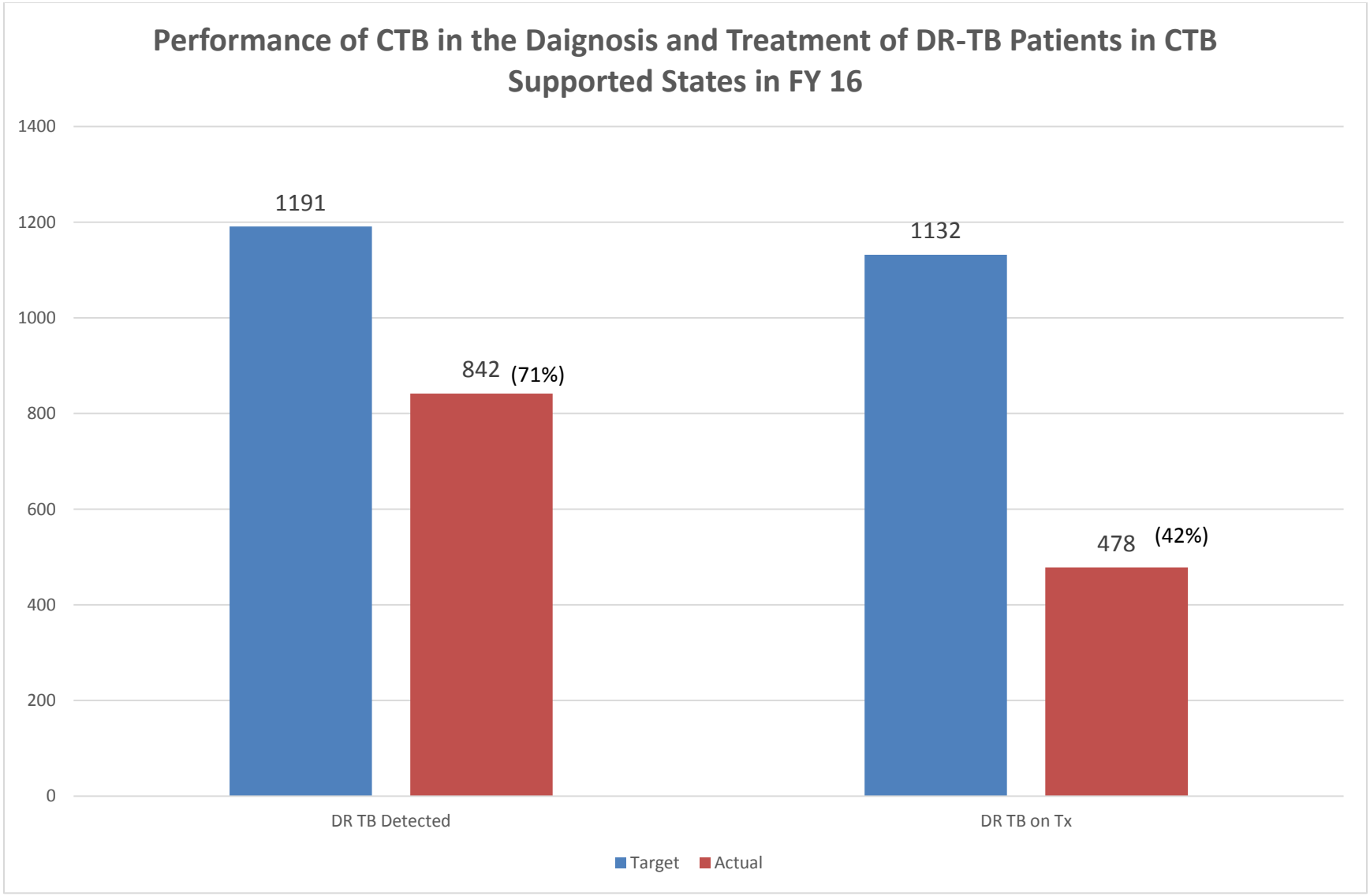

Performance in Case Finding in CTB Supported LGAs in Rivers State
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
313
262
84%
404
264
65%
404
262
65%
404
239
59%
1,526
1,027
67%
Q4 15 Target
Q4 15 Actual
Q1 16 Target
Q1 16 Actual
Q2 16 Target
Q2 16 Actual
Q3 16 Target
Q3 16 Actual
Total FY 16 Target
Total FY 16 Achieved

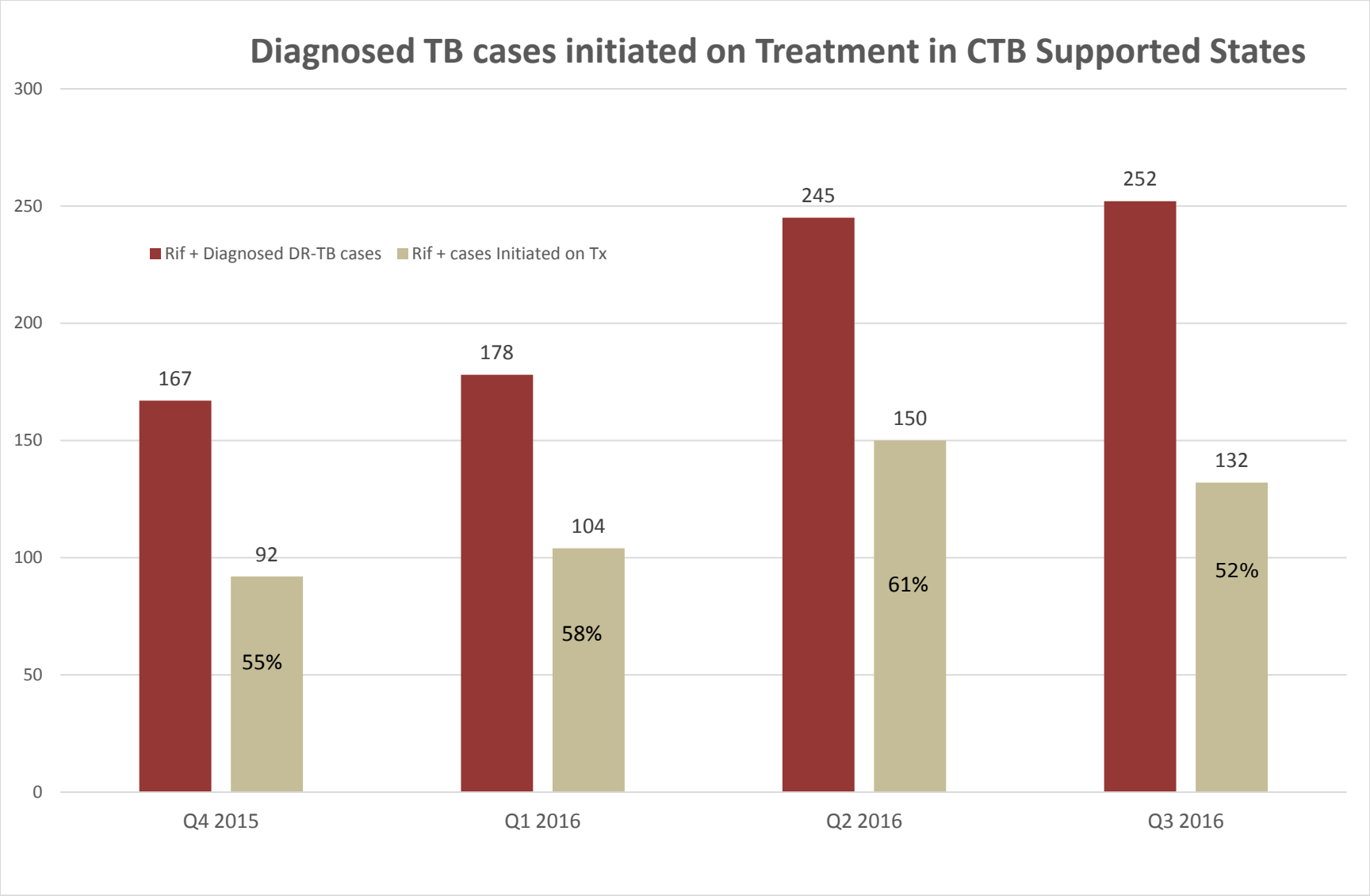

Case Finding in CTB Supported LGAs in Rivers State
Q4 2015
Q1 2016
Q2 2016
Q3 2016
1 1 2 1
6 5 6 4
6 6 10 7
5 6 5 6
4 2 6 3
10 2 8 7
5 3 4 3
13 13 12 16
27 18 25 25
45 68 62 54
142 140 122 113
Akuku Toru
Ahoada West
Omumma
Abua Odual
Asari Toru
Degema
Andoni
Emuoha
Ogba/Egbema/Ndoni
Ahoada East
Obio/Akpor

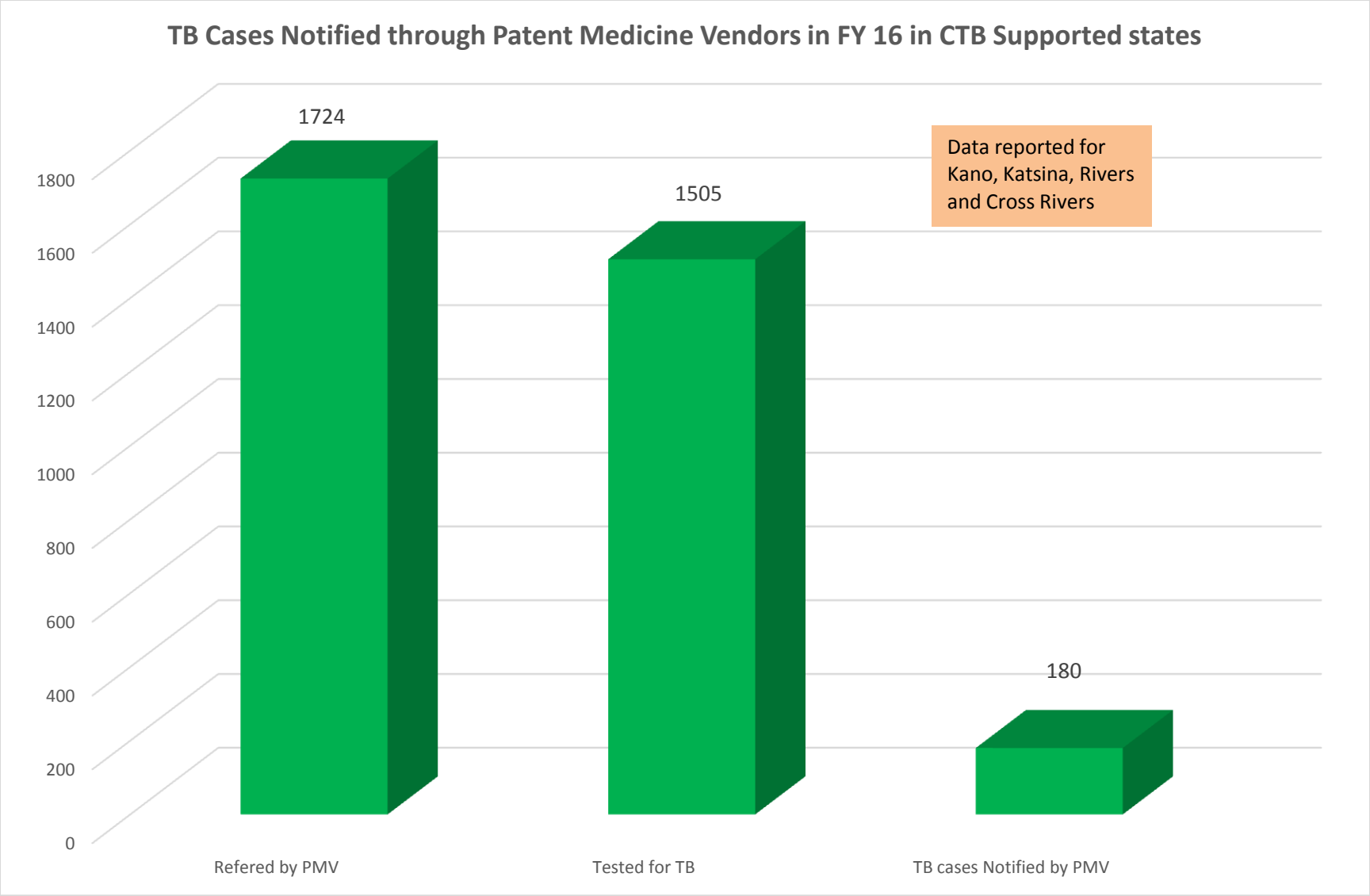
Data Presentation for Targeted Interventions

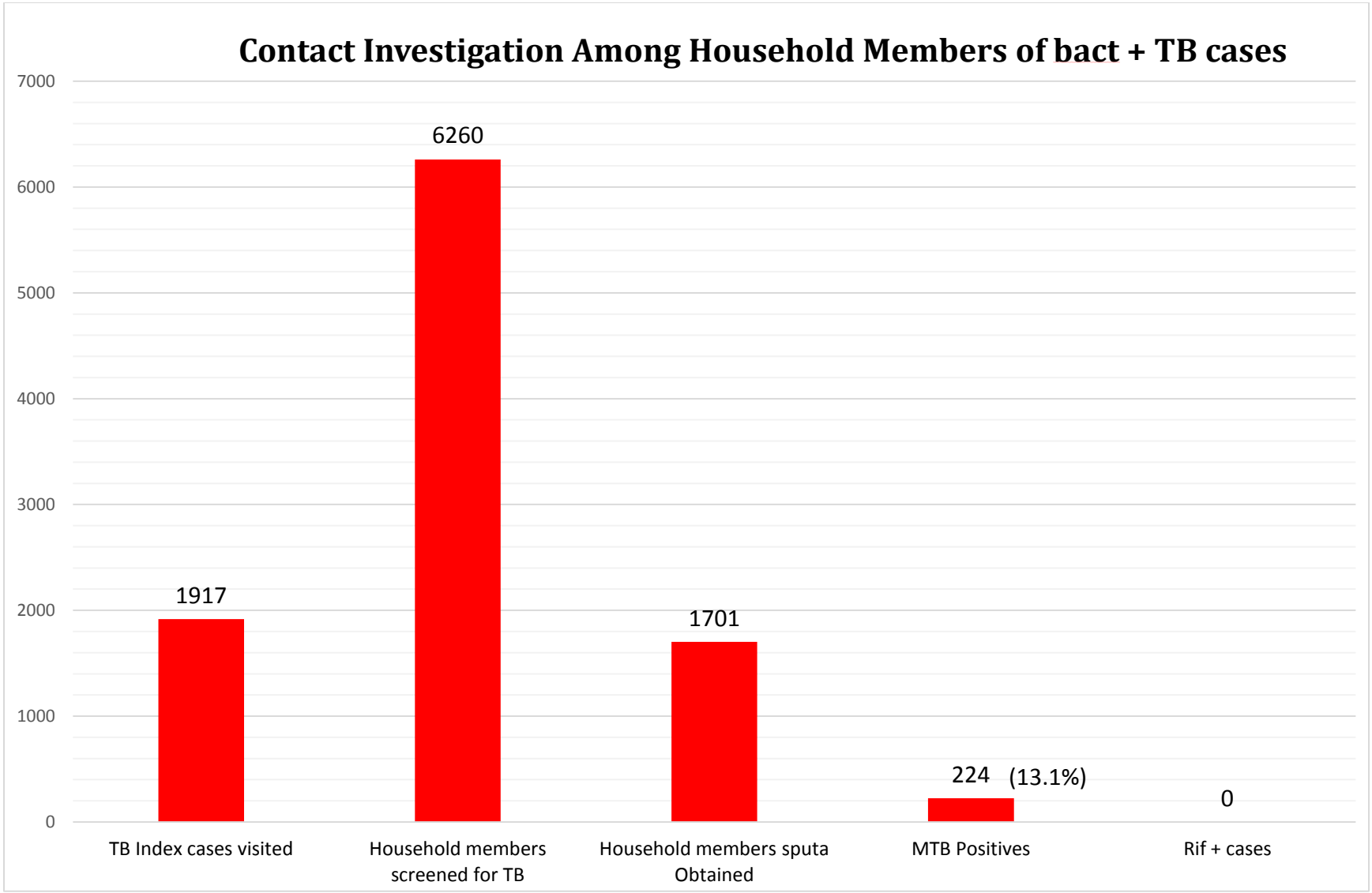

Childhood TB Cases in CTB state
800
700
600
500
400
300
200
100
0
Presp Identified
Childhood diagnosed
Cases on Tx
401
241
226
642
226
226
673
259
(90.3%)
216
Q1 (Baseline)
Q2
Q3
Data presented excludes Niger, Ondo and Osun


Childhood TB Cases Diagnosed by State in CTB Supported States
100
90
80
70
60
50
40
30
20
10
0
Q1 2016(Baseline)
Q2 2016
Q3 2016
1 1 0
1 5 10
8 8 11
3 9 12
20 22 28
25 27 49
41 32 45
55 66 19
87 56 66
Benue
Enugu
Katsina
Akwa Ibom
Cross river
Lagos
Rivers
Bauchi
Kano


Performance of CTB in the Daignosis and Treatment of DR-TB Patients in CTB Supported States in FY 16
1400
1200
1000
800
600
400
200
0
1191
842
(71%)
1132
478
(42%)
DR TB Detected
DR TB on Tx
Target
Actual


Diagnosed TB cases initiated on Treatment in CTB Supported States
300
250
200
150
100
50
0
Rif + Diagnosed DR-TB cases
Rif + cases Initiated on Tx
167
92
55%
178
104
58%
245
150
61%
252
132
52%
Q4 2015
Q1 2016
Q2 2016
Q3 2016


TB Cases Notified through Patent Medicine Vendors in FY 16 in CTB Supported states
1724
1505
180
Data reported for Kano, Katsina, Rivers and Cross Rivers
1800
1600
1400
1200
1000
800
600
400
200
0
Refered by PMV
Tested for TB
TB cases Notified by PMV


Contact Investigation Among Household Members of bact + TB cases
7000
6000
5000
4000
3000
2000
1000
0
1917
6260
1701
224
(13.1%)
0
TB Index cases visited
Household members screened for TB
Household members sputa Obtained
MTB Positives
Rif + cases